GOLD AND POWER

in Ancient Costa Rica, Panama, and Colombia

edited by Jeffrey Quilter and John W. Hoopes

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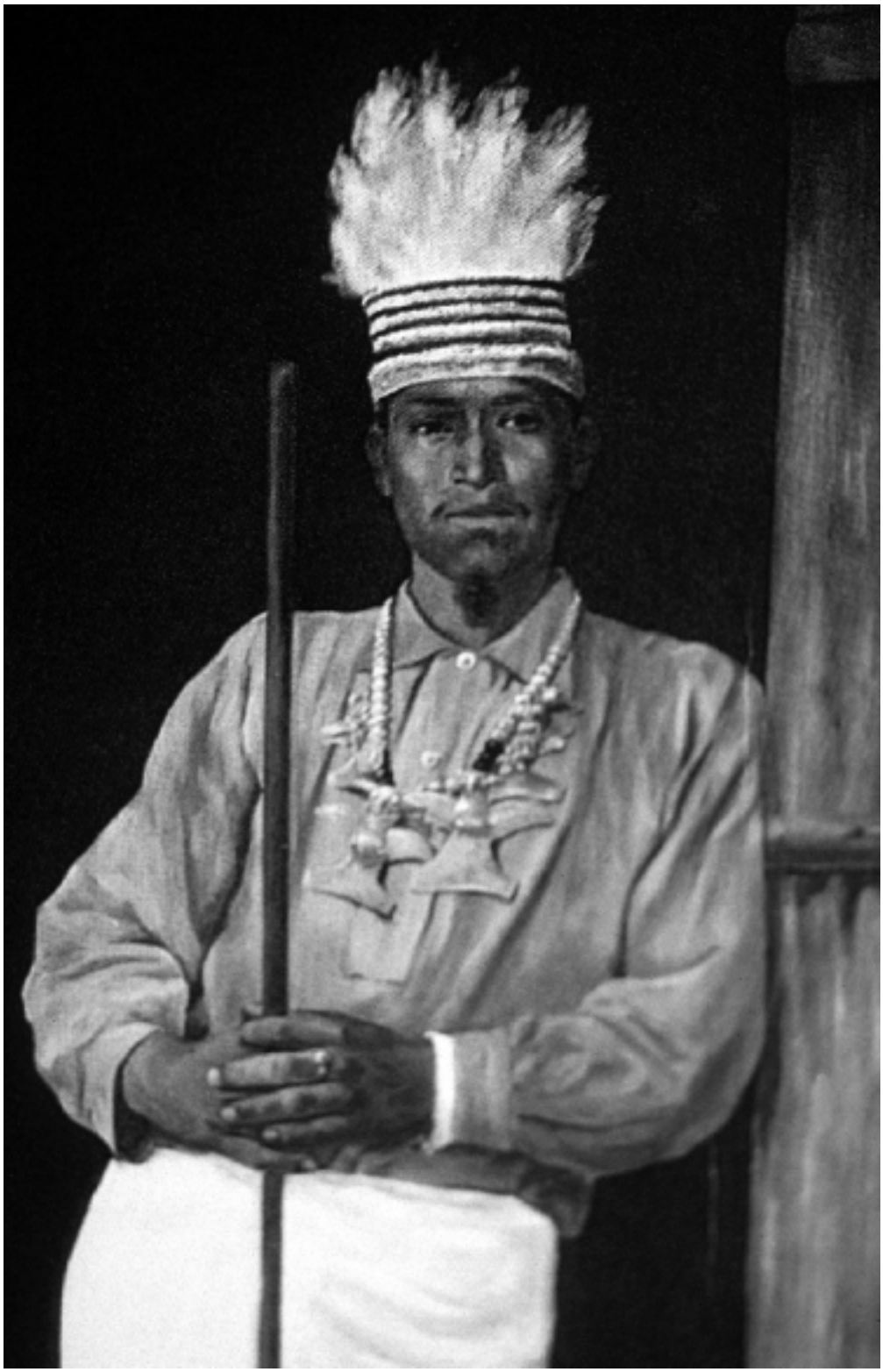

GOLD AND POWER
IN
ANCIENT COSTA RICA, PANAMA,
AND COLOMBIA

A Symposium at Dumbarton Oaks

9 and 10 October 1999

Jeffrey Quilter and John W. Hoopes, *Editors*

Dumbarton Oaks Research Library and Collection
Washington, D.C.

Frontispiece: King Antonio Saldaña of Talamanca wearing a necklace of *tumbaga* bird-effigy pendants. Detail of a portrait by S. Llorente, 1892. ©1992 National Museum of Costa Rica, Editorial Escudo de Oro, S.A. (Calvo Mora, Bonilla Vargas, and Sánchez Pérez, 1992)

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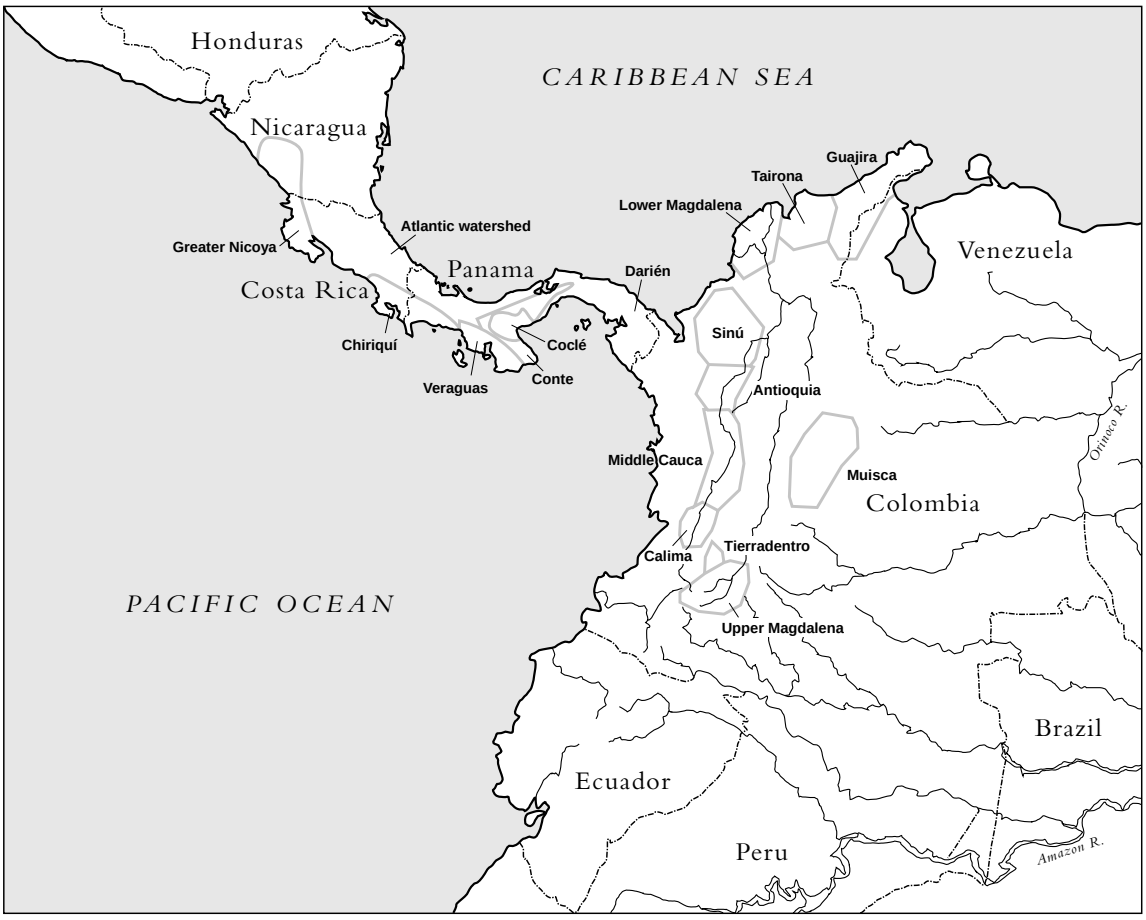

Archaeological culture areas and contemporary states in southern Central America and adjacent regions of South America

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Chronological Chart: Prehistoric Costa Rica and Panama

	Upper Magdalena	Tierradentro	Calima	Middle Cauca Valley	Antioquia	Muisca	Sinú	Lower Magdalena	Sierra Nevada de Santa Marta	Guajira
1600	?	Late Period	Sonso	Late Quimbaya	Late Period	Modern	Malibú Complejo Las Palmas	Modern	Tairona	Modern
1500	Recent					Late Muisca		Late Formative		Late Period ?
1400										
1300							Tradición Modelada Pintada			
1200										Late Period Los Cocos Poracelli
1100						Early Muisca				
1000								Midde Formative		
900			Yotoco			Late Herrera	Tradición Granulosa Incisa		Neguanje	
800	Regional Classic	Middle Period		Early Quimbaya						Early Period La Loma El Horno
700					Pueblo Viejo	Early Herrera				
600										
500										
400										
300					Pueblo Viejo Ferrería					
200										
100 A.D.										
0								Malambo		
100 B.C.	Formative 3		Ilama							
200									Malambo	
300										
400	Formative 2	Early Period 3								
500										
600						Early Herrera ?				
700	Formative 1	Early Period 2								
800										
900								La Sierra ?		
1000		Early Period 1								
2100										
Before 2100										

Chronological Chart: Prehistoric Colombia

Introduction: The Golden Bridge of the Darién

Jeffrey Quilter

Dumbarton Oaks

A pandemic of gold fever gripped the New World for centuries. Columbus, on his last voyage, named a strip of land he touched "Costa Rica" because of the ubiquity of gold he saw on the necks, arms, and chests of its inhabitants. One of the great tales of the conquest of Mexico is Cortés telling Moctezuma's envoys that the Spanish suffered from a strange malady for which the only cure was gold (Sale 1991: 233). "Gold as cure" may have been a common Spanish trope. Apparently, once native peoples understood the lengths to which Europeans would go for this remedy, they occasionally obliged by pouring molten gold down selected gullets of the "ailing."

The Spanish did, however, get their gold fix: between 1503 and 1660, some 185,000 kilograms of gold flowed from the Americas to Spain (Elliott 1996: 180). If sold at gold's current price of $262 an ounce, this plunder would be worth $1,558,023,000; the equivalent in sixteenth-century currency would be more than ten times this amount. Gold fueled the Counter-Reformation and the Spanish Armada, altering the course of world history.

Lust for the yellow metal spread throughout the New World and continued unabated, from the sixteenth century (from Columbus to Cortés to Pizarro) through the nineteenth century (with the California forty-niners and Alaskan gold rushes) to the twentieth century (and the outbreak of gold fever in the open pit mines of Brazil). The magical incorruptibility of gold has induced the corruption of many a body and soul.

The lure of gold as a source of quick and bountiful cash led to looting on a vast scale in southern Central America and Colombia. Overgrown ridge-top cemeteries in Costa Rica, picked clean a century ago, now resemble tropical versions of World War I battlefields, their surfaces riddled with the pockmarks of looters' picks rather than mortar shells. Thousands of gold "eagles" and other items poured out of the Intermediate Area to the extent that some of the smaller pieces were commonly used as watch fobs at the turn of the last century. Despite these items' ubiquity and the row upon row of bright, shiny objects lining museum cases and collectors' cabinets, the number of gold objects scientifically excavated from the region (excluding Sitio Conte) could easily fit on a standard dining room table.

Although pioneering work has outlined major gold styles in Colombia and the adjacent isthmus, much basic information remains unknown (Bray 1978; 1981; Cooke and Bray 1985;

Falchetti 1995; Plazas 1978). Gold objects stripped of their archaeological contexts lend little information about how they functioned in society or how styles were spread or modified by social agents. For example, in 1979 Mary Helms proposed a model for the distribution of gold styles throughout the region. She suggested that seekers of esoteric knowledge who spent long periods in distant lands would return to their homes with gold jewelry in exotic styles as symbols of their newly acquired knowledge and status. This, in turn, would lead to the mixing of distant and local gold styles in the archaeological record. Helms's intriguing theory remains largely untested, however, because local styles cannot be distinguished with the degree of certainty necessary to separate foreign from domestic gold in terms of design or alloy composition. A number of chapters in this book challenge the Helms theory while others support it.

Despite the obstacles to studying the social context of goldwork, a considerable amount of research has been conducted in the last three decades (see McEwan 2000), expanding knowledge of the relations between gold and the people who made and used it in ancient times. Although archaeologists have only excavated one Intermediate Area site with numerous gold objects (Cooke, Sanchez, Herrera, and Udagawa 2000) since research at Sitio Conte (Lothrop 1937; 1942; Mason 1942; Hearne and Sharer 1992), many studies directly or indirectly relate to gold objects. These include research on settlement patterns and exchange systems and other investigations that may contribute to new perspectives on social organization. Studies of prehistoric and more recent symbolism and ideology offer views on how gold may have been valued in the nonmonetary societies of the ancient New World. Other research has made significant advances in better understanding of the languages and physical anthropology of the peoples of Colombia and the adjacent isthmus.

A workshop held at Dumbarton Oaks in 1997 explored many of these issues.[1] Discussions revolved around whether there is enough evidence and consensus to designate a new name for much of what is now termed the "Intermediate Area." Conferees agreed that recent work in linguistics (Constenla Umaña 1991; 1994a, b) and physical anthropology (Barrantes 1993; 1998) strongly support the proposition of long-term occupation of the isthmus and adjacent continent by a relatively stable human population. Archaeologists, and art historians must, however, depend upon material culture to marshal arguments for the designation of a region as a culture area or sphere of interaction. What became increasingly clear at the workshop was that gold jewelry in a distinctive style range serves as a horizon marker for Costa Rica, Panama, and Colombia from about A.D. 700 onward, reaffirming Gordon Willey's (1971) observation, made thirty years ago. Thus, gold and the way it expressed sociopolitical and ideological power leads to a variety of other issues. The topic of gold may thus serve as a bridge linking disparate peoples, times, and places.[2] It was on this basis that the symposium from which this book derives was conceived and planned.

[1] It was entitled "The Gran Chibcha as a Culture Area: Horizon Styles, Cultural Traditions, and Temporal Depth at the Center of the Pre-Columbian World."

[2] The title of this introduction, "The Golden Bridge of the Darién," is borrowed from a remark made by John Hoopes and is ironic. The Darién is the least archaeologically known area in the region under consideration

Many of the scholars who attended the meeting have advanced knowledge of regional styles of gold, symbolic concepts of the people who used it, the nature and transformation of social formations, and other topics. The symposium and the papers presented represent a summation and a starting point. More than a century ago, William Henry Holmes wrote the first extensive treatise on archaeological remains from Chiriquí, in western Panama. The nineteenth-century gold rush had produced considerable quantities of related materials for scholarly study although no formal archaeological fieldwork had been done. Holmes wrote,

> The antiquarian literature of the province is extremely meager, being confined to brief sketches made by transient visitors or based for the most part upon the testimony of gold hunters and government explorers, who took but little note of the unpretentious relics of past ages.
>
> [U]ntil recently the isthmus was supposed to have remained practically unoccupied by that group of cultured nations whose works in Peru and Mexico excite the wonder of the world. But, little by little, it has been discovered that at some period of the past the province was thickly populated, and by races possessed of no mean culture. (1888: 14)

The chapters in this volume represent the great progress in knowledge about the ancient peoples of Costa Rica, Panama, and Colombia we have made since Holmes wrote those lines. At the same time, however, many fundamental questions remain unanswered, and most of the chapters clearly reveal the potential for future research in every area of this part of ancient America.

Volume Overview

Nicholas Saunders opens the book by locating the high value placed by Amerindians on metals within a larger symbolic system that esteemed shiny things. He convincingly argues that such appreciation of bright things was widespread (even stretching beyond the New World) and of long duration in the nonmonetary societies of the ancient Americas. This model can be tested and examined in the specific, different contexts of New World societies for many years to come. Certainly, ample support for Saunders's theory is provided many times in the succeeding chapters and in the exhibit cases of museums throughout the world in which the treasures of the ancient New World are displayed.

The following chapter brings together one of the most active proponents of a unitary vision of the southern Isthmian and Colombian region, Oscar Fonseca Zamora, and a sympathetic North American colleague, John Hoopes. Together they review the linguistic and physical evidence for patterns of similarities and differences in Costa Rica, Panama, and Colombia, a region they call the Isthmo-Colombian Area. As a straightforward geographical reference, the term avoids the danger of essentialism in designating this location a culture

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here. In the sense that bridges link places and the Darién links the continent with the isthmus, however, the title seemed appropriate.

area. Detached from the Intermediate Area, the region is no longer framed in a dependent relationship with Mesoamerica, to the north, or the Central Andes, to the south. Fonseca and Hoopes bring together information supporting the idea of local development within an overall framework of shared cultural practices.

Richard Cooke and colleagues address questions asked by lay people and scholars alike: Who made gold artifacts? Who exchanged gold? Who used gold ornaments, and how were they worn? In answering these questions, the authors offer a scholarly treatise, providing the most thorough discussion of Panamanian gold sources to date, as well as a further introduction to the range of issues in the volume. They demonstrate how the use of ethnology, ethnohistory, and geology in combination with archaeology can be valuable not simply as a source of information to augment one field or another, but as an element in producing a sum of knowledge greater than its parts. For these authors, the power in "gold and power" is the role of the metal in social ranking and in exchange systems. Questioning Mary Helms's (1979) proposition that long distances and the exotic nature of goods and associated knowledge that accompanied them were vehicles for political power, they argue for confirmation by tracing the specific nature, origins, and distribution of such goods. It is a mark of how far investigations in Panama and neighboring countries have advanced in the last two decades that such research is now not only feasible but is also being carried out. This is evidenced by Cooke and colleagues' (2000) recent fieldwork at Cerro Juan Díaz, where a number of different vectors—precious shell carvings, goldwork, ceramics, and funerary customs—are being examined as complex and dynamically interrelated phenomena. Although the physical evidence of early gold technology is extremely important, the testing of Helms's thesis is equally valuable. There may have been numerous means by which gold circulated in southern Central America and Colombia.

Michael Snarskis addresses the important issue of the shift from jade to gold as *the* material of precious value in Costa Rica. Drawing upon his extensive knowledge of prehistoric Costa Rica, Snarskis demonstrates that the shift was not an isolated occurrence, but part of other significant developments as evidenced in changes in mortuary practices, settlement patterns, house forms, and a variety of artifact styles. As Snarskis notes, these changes represent the physical manifestations of transformations in the organization of society and in belief systems that likely were much more important to the ancient inhabitants of the region than was gold. In addition to sharing his insights into these shifts, the author also provides the reader with valuable summaries of the archaeology of Costa Rica, especially the Central Valley and Atlantic Watershed zones.

In their contribution to the volume, Patricia Fernández and Ifigenia Quintanilla examine linkages between stone sculpture, metallurgy, and the expression of power in the Diquís Delta of southern Costa Rica. This is one of the better-known areas in the greater region, among English speakers, due to the work of Doris Stone (1977) and Samuel Lothrop (1963) as well as a general fascination with the large stone balls characteristic of the zone. In addition to providing some of the first detailed English-language studies of the area's stone balls and metallurgy, Fernández and Quintanilla provide important information on and interpretations of the relationships between different symbols of power. Their discussion of the

contemporaneous use of stone statues, stone balls, and goldwork highlights the way in which objects and symbol systems may play dynamic and complementary roles that contribute to the creation and maintenance of what they call an "atmosphere of power." They also emphasize that in many times and places in the Intermediate Area, social power was not exhibited solely through the acquisition of exotic knowledge and goods. It also included the ability of elites to commandeer surplus labor for the construction of extensive and impressive ceremonial equipment and ritual centers and for activities carried out in these places.

Readers unfamiliar with large-scale sites in the Isthmo-Colombian area will be impressed by the Diquís Delta complexes. Their stone balls were not isolated monuments, but objects integrated into great ceremonial centers. *Wealth and Hierachy in the Intermediate Area* (Lange 1992) discusses some of these sites in greater detail. Many sites similar to Palmar Sur, though with varying formats, such as Guayabo (Aguilar Piedra 1972; Fonseca Zamora 1979; 1981) and Rivas (Quilter and Blanco 1995), await future archaeological study in Costa Rica, while others remain unknown or little explored in Panama and Colombia.

Carl Henrik Langebaek continues the focus on the political dimensions of gold, providing a thorough discussion of changes in settlement systems, sumptuary goods, and artifacts of everyday use and the symbolism of them. These changes are supported by radiocarbon dating and excavations (despite extensive looting). Researchers working in other areas of the Isthmo-Colombian region are likely to be appreciative of this body of data and the interpretations that can be drawn from it (and perhaps a little envious as well). Archaeological fieldwork in Colombia has been extensive in recent decades despite the political problems facing the country. The importance of Langebaek's contribution is its documentation of the dramatic shift of gold jewelry as elite items to its more widespread use. He also offers a sobering view of our ability to trace exchange systems in prehistory and to determine whether elites or commoners controlled them. Local production and consumption in early times appears to have been under elite control. The more widespread distribution of gold jewelry in later times may have been the result of elite control of trade, as in the case of the Muisca, but Langebaek leaves open the possibility for other kinds of exchange systems. He notes that what the Spanish saw may represent a relatively recent development in trade patterns, an issue that may also apply to other areas of the Isthmo-Colombian region.

Mark Miller Graham takes a different approach to politics and power relations by proposing an interpretation of a number of stylistic motifs as male appropriation of female reproductive power. His perspective on the art and symbolism of the region as expressions of fertility concerns yields great insights, as does the research of Ana María Falchetti. Graham finds clues and routes to interpretation in a wide variety of continental South American sources. As he notes in his conclusion, the ethnographic data from the northwest Amazon and Orinoco are of great potential value in the interpretation of other parts of the Intermediate Area and beyond. In this, Graham's perspective reflects a continuity of the thought and scholarly tradition recently espoused by Donald Lathrap and established earlier in a more general way by Carl Sauer.

The broad geographical range of a symbol set as presented by Graham is complemented in Warwick Bray's chapter, in which he argues for temporal continuity in Colombia. Bray

posits a fifteen-hundred-year cultural tradition extending from the Tairona archaeological culture to the contemporary Kogi peoples of the Sierra Nevada de Santa Marta. Bray's contribution provides a wealth of information with broad implications for the goals of this volume. He examines the complexity of Tairona political organization as reported by the Spanish with references to *capitanes*, *principales*, *capitanes de guerra*, and *mandadores*, among others. He also reviews Tairona gold styles, links between symbolism, concepts of power, and gold objects, and the intriguing evidence from a Nahuange tomb of an early Colombian polished stone tradition resembling the better-known and -documented polished stone complex of Costa Rica. He argues for much more complex patterns of interchange between peoples of mainland South American and the isthmus than have been considered previously, thus echoing the cautionary remarks raised by Langebaek. In addition to this rich serving of information and ideas, Bray provides an intriguing discussion of Kogi interpretations of ancient gold. He then applies the cautionary brakes, however, through a reminder that these ideas, like the analyses in this book, are contemporary interpretations of the works of ancient peoples who may have had very different views than those of today or those of the Kogi. An extensive appendix of documented finds of Tairona metalwork is an added bonus to a fascinating and provocative essay.

Ana María Falchetti continues the focus on Colombia, with a look at the symbolic dimensions of the technology of gold objects. The symbolic power of lost-wax casting techniques, the nature of copper-gold alloys, and patterns of exchange of precious goods were seen as expressions of processes of transformation. Falchetti skillfully melds ethnographic, archaeological, and materials analyses into a sparkling interpretive alloy. A signal point here is that the value of metals was not always their physical stability or slowness in tarnishing. Rather, the change from bright to dull was appreciated. This seems, at first, counterintuitive to people raised with a Western appreciation of a hierarchy of substances in which those that change least are valued most. Metals in Colombia, however, were valued for contrasting reasons, just as in many areas of ancient America the scent of copper-gold alloy was a metal's most valued aspect, one that few Europeans might appreciate. Falchetti thus reminds the reader that while one may seek to understand behaviors and values through cross-cultural comparison and long-term, widespread general patterns, one must remain sensitive to differences even within generally similar cultural spheres.

Eugenia Ibarra mines ethnohistoric sources for great riches, providing the first detailed account of the points of origin for some of the gold objects taken by the Spanish in southern Nicaragua, Costa Rica, and Panama. Ibarra notes the terminology used by the Spanish for different gold objects as well as their perceptions of different qualities of gold, for example, *buen oro* and *oro bajo*. The latter stands in marked contrast to the subtle appreciation of the transformative qualities of copper-gold alloy by the native peoples. Ibarra also raises the issue of who was entitled to wear gold ornaments, one of the recurring issues in this volume, and offers avenues for future investigation of this matter. This issue, in turn, is but one aspect of the larger question of the nature and variability of systems of social rank in the Intermediate Area, with indications that in some places the Spanish report what appear to be "all chiefs and no Indians," as it were. Ibarra also offers a theoretical perspective on how gold and other

precious goods may have circulated physically and within the context of meaning. The issues that remain to be addressed concerning the Isthmo-Colombian region can be viewed from a broad intellectual perspective that raises fundamental issues of how humans construct societies, create meaning, and attempt to propagate them.

One paper presented at the symposium does not appear in this volume: "Quimbaya Goldwork: Context, Chronology, and Classification" by Clemencia Plazas and María Alicia Uribe. Plazas and Uribe's masterful coverage of Quimbaya gold contains such a wealth of new information—a considerable amount of which requires detailed description and illustrations—that this work is best published in a more extensive format elsewhere.

As a group, the chapters in this volume illustrate dexterity in utilizing a wide variety of sources, from geological reports to materials analyses to field archaeology to early historical records. Together, these essays also highlight the great variety of ways in which people organized themselves in the Isthmo-Colombian region: there is no simple template for what a "chiefdom" system looked like that is universally applicable. Thus, how gold entered into equations of political power also likely varied. It was an important vehicle, but not the only one for expressing social differences. At the same time, however, gold's brilliant luster and, when alloyed, its mutability, were consistently used to express a set of similar, related concepts associated with energy and fertility. Continued research in the Isthmo-Colombian region that reveals ever-greater diversity in sociopolitical organization through time and space and different uses of gold in equations of power will help to demonstrate how the Intermediate Area is both different from, and similar to, other New World regions. Asking what made the peoples and cultures of this part of the globe similar to or different from others is one of the best ways to develop intellectual muscle and will likely encourage research for many years to come.

Reflections on Metals and More

As noted, the diversity of sociopolitical organizations in this part of the ancient New World is one of the topics repeated throughout this volume. Evidence of such diversity relies, to a great degree, on information contained in early colonial documents often not well known outside of the scholarly community of particular nation-states. Attempting to examine sociopolitical diversity, and therefore different power relations, in more remote times provides challenges that are always daunting in archaeology and, as in the case of site surveys, are made doubly so in densely forested tropical environments.

Another source for delineating social organization is mortuary data. More than a hundred years of extensive looting has destroyed much of this kind of information, and even in the best of circumstances preservation factors work against the archaeologist. At the Rivas site, in Costa Rica, Aida Blanco and I excavated two low-status cemeteries that had suffered only minor looting due to the absence of gold (Quilter and Blanco 1995). We found clusters of ceramic grave offerings but the only trace of human remains was soil stains. Thus, the kinds of information on status differentiation that can be discerned through micro- and macroanalyses of human remains were not available to us. The excavations by Richard Cooke and his team

(Cooke et al. 2000) at Cerro Juan Díaz, where preservation was fairly good, are thus all the more important for the osteological information they will be able to retrieve in future studies.

Another factor related to determining social organization and expressions of political power is the ability to conduct excavations of large areas. Although few sites in the central Intermediate Area have the kind of vertical monumentality of a Tikal or Machu Picchu, many are quite extensive horizontally. The work conducted by Ifigenia Quintanilla in the lower Diquís Delta is impressive in that, on a very small budget, she was able to document not only the great size of individual sites but also to show the extensive and expansive nature of site complexes throughout the area.

Finally, the investigation of symbol systems offers opportunities to discuss social relations from perspectives different from the information gathered from site surveys and excavations. An example is Mark Miller Graham's exploration of power and gender issues.

The switch, particularly in Costa Rica, from jade to gold as an expression of symbolic power is one of the most dramatic and clear-cut prehistoric examples of change in value systems in the New World. As Michael Snarskis argues, this shift was part of a complex set of changes. What puts the southern Central American case so sharply in focus is the fact that jade came from southern Mesoamerica (cf. Snarskis, in this volume) and that gold was introduced from the south. This begs for an examination of how new materials and the ideologies bound to them were accepted and assimilated into local desires and interests. The question of the degree to which these materials brought new ways of thinking or how they were locally absorbed is at the heart of this matter. Acceptance and assimilation almost certainly include new or rearranged ideas about the relations of people to their "natural" world and to one another.

In considering these issues, it is worth noting that when Columbus was sailing along the region's shore he observed that everyone wore gold. He also noted that there were differences between how much gold and what kinds of ornaments were worn within particular regions and that in some areas "fine gold" was common while in others baser gold (gold-copper alloy) was favored. This suggests a diverse and complicated pattern of distinctive but contemporary gold provinces within a general cultural system that valued gold.

Current evidence indicates that jade was imported, and its acquisition required long-distance contacts. If status was tied to access to jade, then those on the receiving end who held high status were dependent on maintaining contacts with those who could provide the material. Once procured, however, jade was transformed through a relatively simple but slow process of cutting, grinding, and polishing. Although some individuals were more skilled than others in lapidary work, the skills necessary to work with jade were obvious, straightforward, and could be mastered by almost anyone.

Gold was in many ways the opposite of jade. It was available locally, in rivers and mines, although concentrated in some places. The production process was complicated, requiring the assembly of a great variety of materials that included beeswax, copper for alloys, clays for molds and crucibles, fuel for fires, and other materials. These likely did not have to be imported

from great distances, but they probably required the maintenance of complicated intraregional exchange systems.

Whereas lapidary work was straightforward and laborious, goldworking was complicated and mysterious but relatively quick, once all of the necessary materials were assembled. There is considerable evidence that high-status individuals were active in getting, working, and socially using gold (Cooke et al., in this volume). Some examples of attitudes toward gold, such as Chief París taking back a gold gift (Ibarra, in this volume), suggest that the appreciation and valuation of gold was not always limited to its physical properties, but also extended to its value as capital. If so, this is a significant point that deserves future study.

Not much is known about how jade objects circulated, but, as noted by Ibarra, hints of their value are provided in the histories of these objects, as in the case of the shell goods of the Kula Ring of the Trobriand Islands or the great "coppers" of the Canadian west coast. Jades were cut in two, further divided, and reworked. In carving, cutting, and layering marks on the surface of these precious stones, the workers and owners created historical documents. Splitting a Maya jade belt plaque did not necessarily demonstrate a disregard for the object's history but may instead have added to its historical depth. Rather than a desecration of an essential, complete object, splitting may have expressed a historical sensibility and represented an empowering act through which a received, foreign object was appropriated as one's own.

Reworked gold does not always show its history in a similar manner, for it may go back to the crucible to be reformed into something new. In these cases, as passed down to future generations, it does not bear its history directly. Its form—an antique or foreign style—may indicate aspects of its history, but the object does not physically bear the markings of that past on its substance as does a reworked jade.

Gold was offered in mortuary rites in quantity, as illustrated by the huge amounts looted from cemeteries throughout the Isthmus and Colombia. It is unlikely that jade was ever available in such abundance. This most precious greenstone was an exotic substance from lands far away, but once in the hands of local people it survived, until eventually buried in a grave, as a marker of great temporal depth of historical continuity rather than the achievement of territorial distances covered.

The kinds of technical changes discussed here are highlighted by Alfred Russel Wallace's (1969 [1853]) account of quartzite stone cylinders worn by Cubeo men of the Vaupés River in the northwest Amazonian region (Fig. 1). Slightly harder than jade, quartzite was procured from a great distance up the Río Negro, at the base of the Andes. The cylindrical artifacts Wallace describes measured four to eight inches long, were about an inch thick, and were pierced at one end for suspension. To drill such a hole was said to take years, and to drill a hole for transverse suspension through the length of the cylinder—worn only by the highest-ranking men—was purported to take two lifetimes.[3]

[3] I thank David Watters for drawing my attention to this citation. The full account is as follows: "I now saw several of the men with their most peculiar and valued ornament—a cylindrical, opaque, white stone, looking like marble, but which is really quartz imperfectly crystallized. These stones are from four to eight inches long, and about an inch in diameter. They are ground round, and flat at the ends, a work of great labour, and are each

Perhaps the length of time needed to drill these holes was exaggerated to Wallace or, earlier and elsewhere, there may have been other techniques for working jade that reduced time and effort. Nevertheless, the production of jewelry from hard stone was a laborious process that consisted of wearing down the material to transform it from rough to smooth. Transformation in goldworking, as Falchetti notes, was more rapid, more mysterious, and more dramatic. The shift from jade to gold represented a switch from the mysterious origins of the stone in distant lands, locally transformed by straightforward, common, and locally held knowledge, to the procurement of relatively local common materials transformed by the magical techniques of the metal smith. If part of the social power conveyed in valued materials lies in the mystification of some aspect of objects for those who are taught to value them, then this shift was a change from a mystery of origins to a mystery of manufacture. Such a shift may have been integrally tied to the rise of locally based specialists and new elites.

The Isthmo-Colombian shift from jade to gold was clearly tied to altered social relations and other changes that took place concurrently in artifact styles, settlement patterns, mortuary customs, and many other aspects of life. Were these changes part of an intrusive foreign system that supplanted old ways or were exotic materials assimilated into customary habits so that change occurred more gradually? Although these changes appear to have been rapid from our perspective, they may have taken place over the course of many generations and so were seen at the time as completely local in character and origin.

The differing technologies for procuring and working jade and gold are perhaps emblematic of greater social changes in the Isthmo-Colombian region. Jade may have been valued in southern Central America for the same meanings that it held and was prized for in Mesoamerica, where its greenness stood for water, fertility, vegetation, and, in particular, maize and ancestors. Jade came from far away, as the ancestors were distant in time. It was worked and reworked and passed on from hand to hand through horizontal space and vertical time. With the rise of more hierarchical societies in later prehistory, gold jewelry fit well into a system of increased specialization, of power based in nearby but varied sources, of value situated in specialized knowledge possessed by only a few. In some general sense, the shift is similar to the distinctions made by Emile Durkheim between mechanical and organic social solidarity.

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pierced with a hole at one end, through which a string is inserted, to suspend it around the neck. It appears almost incredible that they should make this hole in so hard a substance without any iron instrument for the purpose. What they are said to use is the pointed flexible leaf-shoot of the large wild plantain, triturating with fine sand and a little water; and I have no doubt it is, as it is said to be, a labour of years. Yet it must take a much longer time to pierce that which the *Tushaúa* wears as the symbol of his authority, for it is generally of the largest size, and is worn transversely across the breast, for which purpose the hole is bored lengthways from one end to the other, an operation which I was informed sometimes occupies two lives. The stones themselves are procured from a great distance up the river, probably from near its sources at the base of the Andes; they are therefore highly valued, and it is seldom the owners can be induced to part with them, the chiefs scarcely ever" (Wallace 1969 [1853]: 191–192).

Fig. 1 Cubeo men wearing cylindrical quartzite pendants at a mourning ceremony (Steward 1948: pl. 96)

If some of the suggestions made here regarding the symbolic natures of jade and gold ring true, then perhaps it is possible to transcend a tension evident in the contributions in this volume. Several authors critique Helms's thesis that the search for exotic goods and knowledge provided the dynamo for Pre-Columbian trade, politics, and religion in the Isthmo-Colombian region. They argue for examining exchange systems and political systems on a regional scale. Well-documented searches for turquoise, spondylus, and such, however, suggest that as a general principle Helms's argument has merit: strange things from distant lands do tend to entitle the owner to bragging rights (and often much more). The success of research in the Isthmo-Colombian region during the last two decades now allows the formulation of questions and programs of research on narrower (though by some standards still quite broad) spatio-temporal questions. Searching for regionally based systems of power and exchange while remaining aware of the ties that bound people in the trans-Isthmian region requires thinking globally and investigating locally.

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"Catching the Light": Technologies of Power and Enchantment in Pre-Columbian Goldworking

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> The power of art objects stems from the technical processes they objectively embody: the technology of enchantment is founded on the enchantment of technology. Gell 1992: 44

In the "western gaze," the history of the Americas is entangled with stories of gold. For five hundred years, this incorruptible metal symbolized the wealth of a continent and engendered an enduring, if often mercenary, fascination with the Pre-Columbian past. Yet the gaze obscured more than it revealed. By only skimming the surface of things, this historically constituted way of sensing and understanding the world subverted indigenous realities and pushed aside ancient value systems (Bender 1999: 31).

Since 1492, the power of Amerindian gold has stemmed from its Western commercial value, distorting other aspects of its nature and role in precontact societies. Even for archaeology, the lure of gold has proved a paradigmatic trap. The ways in which modern science analyzes ancient metallurgies adheres to Western conceptions of knowledge and "control" and has hitherto largely ignored the interplay between indigenous notions of power and the materiality of the pan-Amerindian "aesthetic of brilliance" within which gold and its alloys were variably located. The many legends and locations of El Dorado bear witness to Western civilization's engagement with its own constructions rather than with physical or cultural realities (see Mason 1990; Whitehead 1997: 72–73, 75; Chapman 1967).

Indigenous Amerindians of today and the recent past conceive the world as a multisensory place, where spiritual valuations of matter integrate physical and spiritual aspects of phenomenological experience. Such valuations differ in kind and degree from sixteenth-century and modern Western attitudes, and it is debatable to what extent they may have diverged from Pre-Columbian ideas during five hundred years of cultural hybridization. Nevertheless, it is possible to suggest that, by and large, Amerindians in North America and the Caribbean, Mesoamerica, and South America possessed valuations of shiny matter derived from pan-Amerindian attitudes toward the spiritual and creative power of light. There seems to be ample evidence that brilliant objects—the "things" of nature and culture—were

indigenously regarded as concretizations of light and light-laden natural phenomena. In this way, all Amerindians saw shiny matter as charged with cosmological power, a view contradicted by Europeans, for whom only gold, silver, pearls, and emeralds had any real (commercial) value.

As elsewhere in the Americas, in the Intermediate Area gold and other kinds of shiny matter did not exist in inert and compartmentalized isolation, but within actively transformational and overlapping spheres of symbolic, ritual, and technological activity. This exploration of gold and power from a broad perspective adopts a material culture approach to the meanings attached to objects[1] and to the indigenous conceptions of objects as embodiments of worldview. This throws light on the indigenous nature of gold artifacts, which were the objectification of social being and whose manipulation allowed Amerindians to define themselves and their relationships with supernatural forces, a process that established a constantly changing dialectical relationship (Miller 1987: 81).

Shimmering Worlds

A wealth of ethnohistorical and ethnographic evidence suggests that indigenous Amerindians throughout the Americas perceived the world as infused with "spiritual brilliance." This view manifested itself across a range of natural phenomena—sun, moon, water, ice, rainbows, and clouds; natural materials, such as minerals, feathers, animal pelts, pearls, and shells; and ceramics, textiles, and metals. Despite a range of differing cultural conventions and significances, each of these objects held an inner sacredness displayed as shiny surfaces (Saunders 1998a: 226–230).

Philosophies of Light

From the Amazon to the Andes and from Lower Central America through Mesoamerica and the Caribbean to North America, different philosophies, symbolic associations, technological choices, and materials bolstered or reflected Amerindians' desire for the aesthetic of brillance. Polished wood, iridescent featherwork, burnished pottery, greenstones, obsidian, crystals, gemstones, and a variety of metals and alloys were all favored variously, and to a greater or lesser degree, across space and through time. Each shiny material possessed meanings whose cultural specificity was determined by availability, historical contingency, and varying degrees of technological sophistication; each also therefore became differentially embedded in language, mythology, ideology, and socioeconomic reality. Each Pre-Columbian society attributed different values and meanings to the shapes, colors, and textures of their shiny objects (Hamell 1995: 47–49; Melgarejo 1998; Reichel-Dolmatoff 1978; Zajonc 1993: 14–15). While tight-fitting significances were rarely transferrable *in toto* between cultures, the objects themselves could move considerable distances, which is suggestive of a shared underlying significance accorded to brilliant media.

[1] Editorial, 1996, *Journal of Material Culture* 1 (1): 5–14.

Despite expected and complex differences among Amerindian outlooks, varying attitudes toward brilliant objects appear to have emerged from and cohered around a worldview that saw light, dazzling colors, and shiny matter as indicating the presence of supernatural beings and essence. The indigenous Amerindian world was a transformational place, a universe governed by symbolic analogical reasoning defined and controlled by individuals—whether shaman, priest, chief, or dynastic ruler—who had mastered its dangerously ambivalent forces through knowledge and ritual.

Unlike European societies, which were dominated by the sense of vision, Amerindians inhabited a multisensory world, where olfactory, auditory, and tactile elements of sensory experience formed a holistic phenomenological unity. This worldview appears to have possessed a synesthetic dimension, where what Europeans would have regarded as unfamiliar and illogical meanings were attached to the lights, sounds, smells, and tastes of life (Howes 1991: 3–5; Classen 1990, 1991). Under the influence of tobacco, for example, shamanic initiates of the Venezuelan Warao experienced multisensorial perceptions of serpents, where touching a snake's shimmering scaly skin brings spiritual enlightenment (Wilbert 1997: 327; Helms 1993: 212–216). The articulation of this worldview had far-reaching consequences for the nature of power and for its symbolic and material expression.

Behind the physicality of existence for any society are guiding metaphysical principles that shape and give meaning to the technologies of material culture as well as to social and spiritual life. For Amerindian societies, these three aspects of culture appear not to have been separated or compartmentalized, but inextricably bound so that society, its technologies, and objects formed a unity. In this way, beneath a host of shiny objects lay the cultural significance accorded to light that itself is partly the consequence of the phototropic nature of human and most other kinds of earthly life.

As light hits the retina, the visual cortex of the brain is stimulated, and thought and perception are affected (Perkowitz 1996: 31–35). Something as everyday as sunlight glancing through trees can produce trancelike seizures in some individuals. As Zajonc (1993: 33) notes, the eye is a "strange crossroads" where objective processes become subjective responses. While archaeologists and anthropologists seek to explain cultures in their own right, in dealing with light and brilliant objects the existence of universals in human cognition must be acknowledged (Hamell 1992).

Aesthetic valuations and cosmological associations of light and brilliance in moral philosophies and materiality also appeared beyond the Americas, including in medieval Europe (Leddy 1997: 264; Saunders 1998a: 242). Analogues to Amerindian examples abound in Africa, Asia, and the Pacific and span thousands of years, extending the aesthetic of brilliance around the world. Morphy's (1989, 1992) work on brilliance, beauty, and ancestral power among the aboriginal Australian Yolngu is a case in point, as are the comments by Coote (1992: 252–253, 255) on African Dinka and Nuer conceptions of the brilliant sheen of cattle hides, and Gell's (1992: 45) observations on the light-trapping, dazzling designs of Pacific Island Trobriand canoe boards. Bayley (1986: 291–292), in his discussion of the symbolic dimensions of cloth in Indian society, comments on the divine qualities of light, gold, shiny fabrics, and mirrors in Indo-Persian philosophy and Islamic architecture (see also Betz 1995; Brill 1980; Rivers 1999).

What makes the Amerindian valuation system significant is its cross-cultural coherence, rich diversity of material culture expression, and survival until the mid-sixteenth century at least, and in some places and respects and in various syncretic forms through the colonial period in Latin America to the present day (de Mesa and Gisbert 1994; Gisbert 1994; Mauldin 1996; Reichel-Dolmatoff 1981; Stastny 1997; Scott quoted in Whitehead 1997: 81–82).

In general terms, indigenous Amerindians associated light with the mirrored realm inhabited by bright spirit beings who became visible to shamans, priests, and rulers in visions aglow with multicolored light. Many accounts of such visions describe the appearance of luminous supernaturals, regarded variously as souls, were-animals, and immanent forces (Furst 1976: 46, 131; Goldman 1979: 210, quoted in Harner 1978: 162; Kensinger 1995: 221; Taussig 1987: 322–323). Shamanic visions could be induced by tobacco smoking (Wilbert 1987), ingesting hallucinogens (Furst 1972, 1976; Harner 1978), abstinence, and music (Olsen 1975). The links are sometimes explicit: Venezuelan Warao light shamans derived their powers from the supreme Tobacco Spirit (Wilbert 1987: 160–161), and for Araweté shamanic initiates light-giving tobacco made the skin shine (Viveiros de Castro 1992: 219). More specifically, Warao shamanism had a symbolic dimension of light and brilliance associated with cosmic serpents that were based on shimmering, brightly colored, natural prototypes (Wilbert 1997: 318, 327).

The centrality of light to Amerindian conceptions of life is exemplified by two contrasting cultures—the contemporary Akawaio of Guyana and the Mesoamerican Aztec. For the Akawaio, the central concept of spirituality is *akwa* (light, brightness, life), and an individual's supernatural condition can be either *akwalu* (a spirit; lit., "a kind of light") or an *akwalupö* (a ghost; lit., "without light") (Sullivan 1988: 423). Similarly, for the Aztec an individual's soul, or *tonalli*, was conceived as hot and luminous. When a child was sick his reflection in water was observed; if the image was bright, his *tonalli* was intact, if dark, it had escaped (López Austin 1988: 204–206, 216; Ruiz de Alarcón 1984: 162). The wider semantic dimensions of light for the Aztec can be seen in the ethic of *chipahuacanemiliztli* (righteousness) which transformed the human psyche into a precious turquoise or iridescent quetzal feather (Gingerich 1977: 140). *Tlalocan*, the Aztec rain god's paradise, was a brilliant place full of divine fire where human beings appeared as shimmering gems (Burkhart 1992: 89).

For Amerindians, light permeated the world, linking earth, sky, sea, and atmospheric phenomena, infusing the whole with spirituality and morality and energizing it with cosmic power. They regarded places, objects, and phenomena that possessed shiny qualities as especially sacred. Rivers, lakes, the sea, mist, rain, and ice were all alive with spiritual essence. The Colombian Kogi conceived snow peaks as gleaming white crystals, prisms of light entered by the dead (Reichel-Dolmatoff 1981: 28). Rainbows and clouds glowed with spiritual energy for indigenous peoples of the Andes (Garcilaso de la Vega 1987 [1609]), Mesoamerica (Seler 1990: 195), and the Caribbean (Stevens-Arroyo 1988: 190–191). For the Mesoamerican Zapotec, the vital life force, *pèe*, dwelt within all living matter and was manifest in lightning and clouds, the former representing the powerful supernatural *Cociyo*, and the latter the metamorphosed ancestors of the Zapotec people (Marcus and Flannery 1994: 57–58).

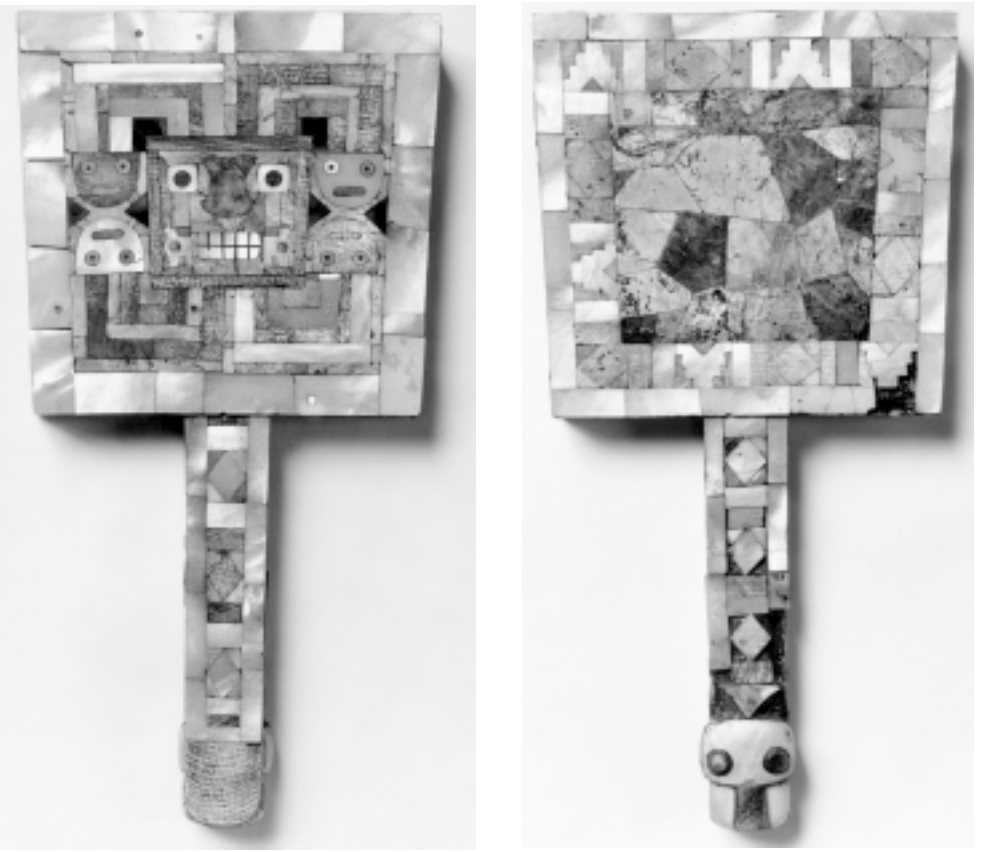

Fig. 1 Huari mosaic mirror, ca. A.D. 650–800. The reverse side shows a central face flanked by four heads and framed by cut shell and mother of pearl. The obverse side is similarly composed, but with the central part being a reflecting surface of pyrite inlay. (Courtesy of Dumbarton Oaks.)

Materialities of brilliance

The positive and supernatural qualities indigenous Amerindians ascribed to light and the light-infused world were materialized in natural and artifactual objects. Indigenous notions of light as cosmological energy appear to have validated its myriad material forms. Minerals can be used as an example, as they are ancient and widespread. Throughout the Americas, various minerals were made into mirrors of different kinds: polished iron ore among the Olmec (Carlson 1981); mosaics of pyrite and jade for the Maya (Kidder, Jennings, and Shook 1946: 126–131) and at Teotihuacan (Cabrera Castro 1993; Taube 1992); anthracite and jet (Burger 1995: 91, 121, 169; Quilter 1991: 404–413); pyrites and shell (Boone 1996: 181–186) in the Andes (Fig. 1); and slate and mica in North America (Ford 1969: 75–76; Saunders 1988: 1–10, fig. 1).

In Mesoamerica, Bernardino de Sahagún (1950–78, bk. 11: 223, 229–230) makes reference to the translucence, preciousness, iridescent colors, and light-giving qualities of different minerals, many of which appear as items of elite tribute in the Aztec *Codex Mendoza*

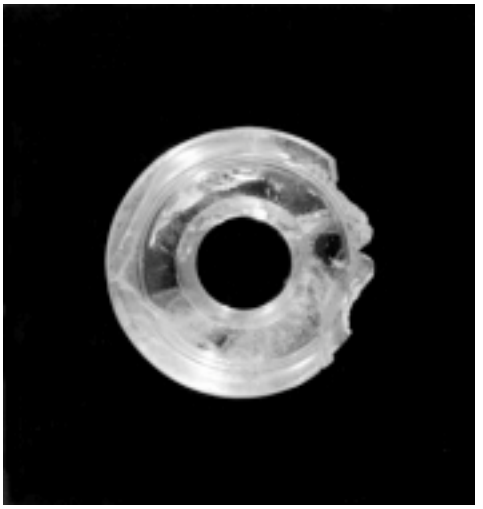

Fig. 2 Aztec crystal ear spool, one element of the Mesoamerican elite display of brilliance. (Courtesy of Dumbarton Oaks.)

(Berdan 1992: 310–312) (Fig. 2). Modern Nahuatl Indians regard the sky as a living (crystal) mirror filled with the sparkle of the sun and stars (Sandstrom 1991: 238; Dow 1986: 108–110; Brady and Prufer 1999). In South America, crystals adorned Inka temples (Mester 1990: 206, 216) and were associated with pearls and rain. For the Amazonian Desana, a crystal's hexagonal shape represents an image of cosmic order related to concepts of energy, transformation, and fertility, with the crystal regarded as concentrated semen (Reichel-Dolmatoff 1975: 102; 1981: 23). The sun, as the ultimate source of light, is conceived as a huge rock crystal, and every earthly crystal is a miniature sun (ibid.; Hugh-Jones 1979: 121; Sharon 1978). In North America, the Chippewa-Ojibwa and Seneca Iroquois associated quartz crystals with shamanic curing, divination, and the human soul (Hamell 1992), and among the Navajo Athapaskans they symbolized "clear seeing" and consciousness (Witherspoon, quoted in Hamell n.d.: 58).

Greenstones also were especially valued and widely traded in lowland South America (Boomert 1987; Oliver 1989: 216–217; Reichel-Dolmatoff 1981: 29). In Mesoamerica, the Aztec saw greenstones as connoting fertility and glistening preciousness, not least in elite mortuary practices (Sahagún 1950–78, bk. 11: 221–222; López Austin 1988: 326–327). Mica, similarly, symbolized cosmic forces and was associated with elite burials and structures in North America and Mesoamerica (Armillas 1944: 123–124; Moorehead 1922: 91–92; Sahagún 1950–78, bk. 11: 235). Alongside shell, jade, and magnetite, mica signified high status in the early ranked society at San José Mogote in Mexico's Oaxaca Valley around 1150 B.C. (Marcus and Flannery 1996: 93, 101–103).

The translucence of shells and pearls appears to have been widely associated with the reflective surfaces and fertility aspects of the sea, rivers, and lakes. Shells possessed desired white shiny qualities as well as particular economic, ritual, and prestige values across the Americas (Cordy-Collins 1990; Kolb 1987; Suárez Díez 1989). For the Aztecs, *Spondylus princeps* resembled crystal, and they used it to make shamans' divinatory bowls (Berdan and Anawalt 1997: 84), while in the Andes this species had a long history of ritual importance

(Paulsen 1974). More generally, shells were a common offering at Andean water sources (Murra 1975: 257), and in the shape of beads *(chaquira)* were a prized offering to *huacas* (de Arriaga 1968:45). In Amazonia, shell jewelry was highly esteemed (Medina 1934: 411–412; Whitehead 1988: 54–55), and in North America shell beads were symbolically linked to saliva and semen (Hall n.d.; Ceci 1988). North American *wampum* (cylindrical shell beads) signified light and spiritual well-being (Hamell n.d.; 1995). Pearls also were highly regarded for their light-giving and spiritual qualities (Mester 1990: 198; Sauer 1971: 167; Saunders 1999: 247–249).

Many other materials served as conveyors of sacred brilliance. Burnished and slipped pottery (Coe 1960) and ceramics of clays and temper with sparkling inclusions (Arnold 1993: 113; Lunt 1988: 493) could dazzle with their shininess (Medina 1934: 201). As Mary Helms (1993: 240) observes, Samuel Lothrop noted the widespread distribution of polished and glazed pottery throughout Mesoamerica and South and Central America. Similarly shiny was polished black wood in the Caribbean (Helms 1986), and shimmering featherwork in lowland Amazonia (Howard 1991; Kensinger 1991) and Mesoamerica (Yturbide 1993). All appeared to resonate with the positive cultural valuations and associations of light.

This brief review suggests a pan-Amerindian symbolic coherence among myth, spirituality, conceptions of the natural and social worlds, and material culture, whereby the brilliance of whiteness and dazzling colors appears representative of fertilizing cosmic energies and positive and culturally approved moral behavior. Whatever medium was favored, there appears to have been an underlying structural ascription of sacredness and value on the basis of reflective and chromatic qualities. The Amerindian world was infused with brilliance.

The Location of Power

In the Amerindian worldview, materiality was invested with qualities abstracted from the cultural appraisal of the natural world. Material culture objectified these qualities while combining them into something new—revitalizing the individual and society through newly manufactured identities (cf. Hoskins 1998: 191). Objectification in this sense can be defined as "the serial transformation of matter into cultural form" (Shanks and Tilley 1992: 130). Making shiny objects was an act of transformative creation, trapping and converting—in a sense recycling—the fertilizing energy of light into brilliant solid forms via technological choices whose efficacy stemmed from a synergy of myth, ritual knowledge, and individual technical skill (Saunders 1999: 246). As Ana María Falchetti (in this volume) notes in respect to the Colombian Muisca, pregnant women offered figurines of *tumbaga* and emeralds to their Rainbow deity to ensure successful childbirth, an interesting symbolic equation of two different kinds of shiny materials—one cultural, the other natural—with human fertility and a god whose referent is an iridescent natural phenomenon produced by sunlight and moisture in the air.

Such evidence suggests that brilliant objects represented the accumulation of creative power that animated and regulated the universe, embodied a society's mythic identity, symbolized the efficacy of rituals, and reinforced the powers of the elite who conducted them

(Helms 1993: 13–27; Reichel-Dolmatoff 1988). As such, shiny objects were the ultimate symbols of power and influence, and for this reason are found in myriad forms in physical and symbolic associations with elites in life and death. Jade, shells, pearls, crystals, brightly colored ceramics and textiles, human and animal bones, glossy animal pelts, and mercury are just a few of the shiny materials wielded by elites during public ceremonies and which also are consistently found in elite mortuary contexts throughout the Americas.

When the Spanish sought control over local chiefdoms in Oaxaca, they did so through a mutual exchange of prestige goods. Indigenous nobles gave gold and jewels in return for glass beads and steel knives (Romero Frizzi 1994: 232). Thus, indigenous conceptions of power favored the Spanish at least in part because their shiny goods were perceived as symbolic manifestations of esoteric knowledge and cosmic power. The Europeans therefore were understood to be (or to represent) a superior sacred power (Romero Frizzi 1994: 234–235).

A wealth of ethnographic evidence supports the Amerindian view that earthly power emanates from the shiny spirit realm where it characterizes (and is controlled by) ancestors, ambivalent spirits, and immanent forces. It is acquired or tapped into by shamans, priests, and rulers, who, through their privileged access to this domain, intervened in attempts to propitiate or cajole these supernaturals into acting in accordance with earthly desires. As the spirit world glows with light, and its inhabitants similarly are shiny beings, the shaman emulates their supernatural nature by becoming brilliant, by having mastered knowledge and techniques that were also glowing: the whole trance experience becomes enveloped in symbolic shininess and color.

Reinforcing the partial and temporary identification of earthly shamans with supernatural beings is the ritual manipulation of shiny matter, such as mirrors, bones, metals, jade, and polished wood. As "power objects" of the utmost sacredness and efficacy, such objects "catch the light" and become infused with its fertilizing cosmic essence and positive cultural qualities. Clifford Geertz comments on the power of such objects to operate simultaneously in the metaphysical and everyday spheres, noting that "religious symbols formulate a basic congruence between a particular style of life and a specific (if, most often implicit) metaphysics, and in so doing sustain each with the borrowed authority of the other" (1973: 90).

Equally important for understanding the power embodied in these objects is the nature of the technological processes involved in their production. As Pfaffenberger notes, "a design constituency creates, appropriates, or modifies a technological production process, artifact, user activity, or system in such a way that some of its technical features embody a political aim—that is, an intention to alter the allocation of power, prestige, or wealth" (1992: 505).

Shiny objects can be seen as definitive statements of social prestige, centrally located in the symbolic representation of political power and elite status (Blanton et al. 1993: 220–222). The classification of such matter as art is problematic in the Western view and has often deflected scholarly attention and blunted analytical precision. As Gell says of art objects in general, "They fascinate, compel, and entrap as well as delight the spectator. Their peculiarity, intransigence, and oddness is a key factor in their efficacy as social instruments" (1998: 23). This statement seems to catch a part of the essence of shiny (art?) objects in the Americas.

As elites dazzle in costumes and ceremonies, it is not just a visually stimulating event. Rather, they are "wearing light," manipulating the cosmic energy from whence political power flows. It is hardly surprising that during Sir Walter Ralegh's first expedition to the Orinoco, one local chieftain, Morequito, forbade his people to trade in gold because it undermined his authority (Whitehead 1997: 77).

So closely entwined are indigenous concepts of power, prestige, and light that gods and elites often have epithets and names that refer to shininess and brilliance. As Arrom (quoted in Oliver 2000: 205) observes of the Taíno of Hispaniola, one paramount chief, Bohechio, held the title Tureywa Hobin (Shiny as Sky-Brass), or "king as dazzling and heavenly as guanin" (Whitehead 1997: 88), while other chiefs had names such as Caonabo and Anacaona, which incorporate the word for gold, *caona*. As Warwick Bray (in this volume) points out, the Kogi personification of their highest moral principles is Búnkuasé whose name means "the shining one." Mulkuexe, the Kogi lawgiver, is a solar figure whose name has the root *mul* and is associated with brilliance, light, and cosmic energy (ibid.).

Metallic Worlds and Symbolic Process

Nowhere in this view of power is there any hint that the complexities inherent in the symbolic equation of metaphysics and materiality originated with or depended upon the invention of metalworking. The prominence of metallurgy in the scholarly literature is largely due not to its universal predominance in Pre-Columbian America, but to the Western commercial value of gold and silver, the base-metal technological nature of Western civilization, and the facility with which modern science can analyse "primitive" metallurgical traditions (Saunders 1998a: 225).

Indigenous Amerindian valuations of gold, silver, and their alloys derived from already established ideas concerning the aesthetic of brilliance that hitherto had been connected to minerals, shells, plants, animals, and natural phenomena as they appear in nature and, transmuted through technology, as artifacts. From this perspective, metals were received into a preexisting, age-old, symbolic, analogical, and multisensory world of phenomenological experience that had little in common with fifteenth-century European or modern notions of commercial wealth. Amerindian attitudes toward metals and metallurgy were more akin to those of other traditional, non-Amerindian societies, including some in Africa. In the Cameroon grassfields, for example, the creation of iron objects was, by relational analogy, explicitly associated with the processes of pregnancy and childbirth (Rowlands and Warnier 1993: 524).

Metals nevertheless possess notable qualities that afford a unique potential for ritual marking and mystification. This is due partly to the complexities of the various technological processes that must be mastered in order to produce finished objects. These are matched in the symbolic realm by the nature of metals as something cold and hard made from something hot and liquid and something that can be shaped into an endless variety of cultural forms from lumps of raw material via technological ingenuity and the mediation of fire (Fig. 3). This mix of practical and ritual processes yields materials with peerless reflectivity, that is,

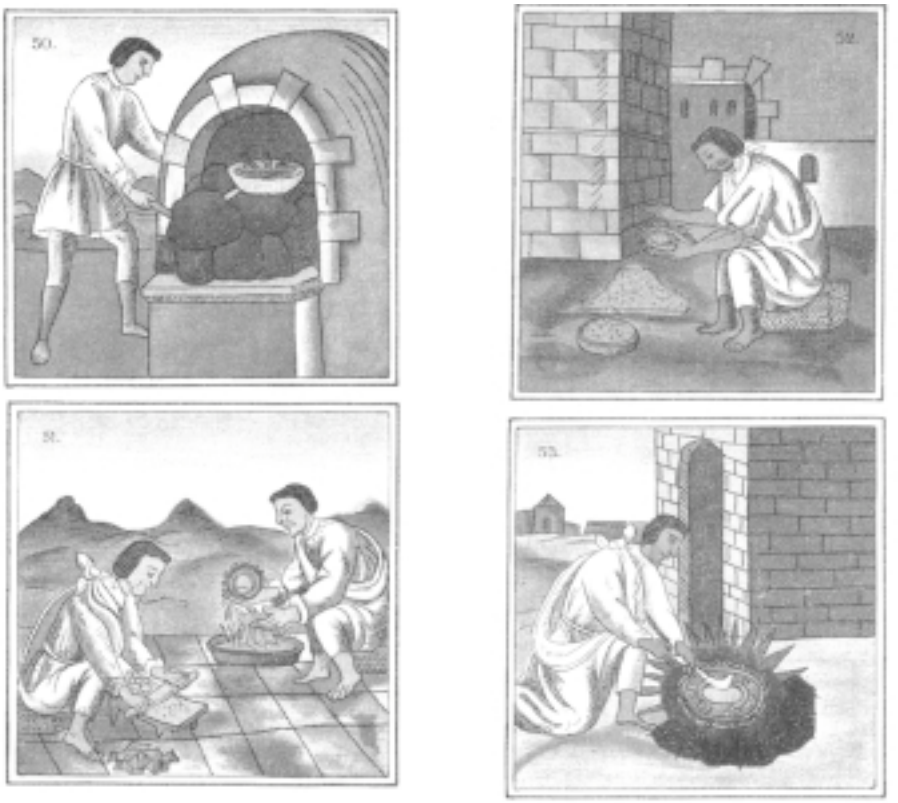

Fig. 3 Transforming fire. Aztec metalsmiths melting and casting gold. (From Sahagún, *The Florentine Codex*; Anderson and Dibble 1953: book 9, illustrations 50–57.)

the potential to contain, gather, and dispense light, and thereby symbolize in material form the cultural valuations bestowed on light itself.

Nevertheless, it is apposite to point out that cultural qualities associated with such transformations are not unique to metalworking. Water, similarly, can be acquired in solid form, as snow, hail, and ice, and reduced to liquid by heating. Clay starts as a pliable material and is transformed into hardened pottery by firing. Wood can be stretched, hardened, and shaped by the application of fire and water. While metalworking is more complex than these processes, it is, when reduced to its fundamentals, "of a piece" with many other cultural transformations of matter. In this sense, "the idea that a technical process recapitulates more general ideas about natural reproduction in a mythological and cosmological context reestablishes the link between magic, fertility and technology" (Rowlands and Warnier 1993: 512–513).

To the indigenous Amerindians, metals were sensorial stimulants used for decoration and adornment and to symbolize status and power by visually expressing elite connections to immanent powers (Reichel-Dolmatoff 1981: 22–23). The Amazonian Desana, for example, consider the true importance of metal adornments to be the symbolic associations of their

color, shape, and odor, and their ability to modify colorful hallucinogenic visions (ibid.; Hosler 1994: 235, 241–243). They associate copper ear pendants with male virility and relate their odor to sex and fertility (Reichel-Dolmatoff 1981: 22). In the Caribbean islands, the copper-gold alloy *guanín* was valued not just for its brilliance but also for its scent, said to be similar to the *taguagua* plant by which name it was also known and which may refer to a strongly odiferous plant with golden flowers known in Cuba as *guanina* (Whitehead 1997: 78; Falchetti, in this volume). The popularity among Pre-Columbian metalsmiths of the copper-gold alloy—known as tumbaga in South America and guanín in the Caribbean—was probably due to the indigenous preference for its color over that of pure gold (Lechtman 1993: 269; Sauer 1971: 60; Stevens-Arroyo 1988: 67–69).

The symbolic relationship between shiny metal objects and the celestial sphere is seen ethnographically where their inner, spiritual, essence was recharged with cosmic energy by exposure to light. The Colombian Kogi, for example, expose their gold and gilded copper ornaments to the rays of the sun, whose power is then transmitted to priests and participants during rituals (Reichel-Dolmatoff 1981: 26). The archaeological evidence for shamanically inspired metallic worlds as a variant or development of (rather than a departure from) prior notions of brilliant spirit realms lies in the use of metals to make mirrors. As Rex González (1992: 202–203, 259) observes in the extraordinary range of shiny metal disks from the Andes, there appears to be a physical and symbolic association between shiny copper disks, ritual snuffing, and hallucinogenic visions (1992: 39, pl. 5, 116, 116a). Helms (1981: 219–220) has commented upon the Inka use of sheet gold technology to adorn or "construct" the Coricancha temple in Cuzco as a physical and symbolic microcosm of the world. The capacity of metalworking to sheath such structures in gold and its alloys made physical the ancient metaphors of light to a greater and more impressive degree than previously afforded by textiles or incrustations of shells or crystals.

Metals were the most effective Pre-Columbian artifactual conveyors of light and brilliance, partaking of light's sacred values, joining and complementing rather than supplanting the brilliant and translucent qualities of shamanic visions, crystals, feathers, lightning, and snow-capped mountains. In other words, the materiality of metal objects acted as a bridge between mental and physical worlds (cf. Miller 1987: 99). As with other shiny media, this overarching quality of metals is not incompatible with a multitude of nontransferable culture-specific meanings and values. Instead of being viewed first as something fundamentally new, metals should initially be assessed contextually, in relation to other brilliant materials and the nature of non-Western technologies.

Metalworking techniques are undoubtedly specialized technologies, yet they are not immune to the metaphysical principles that govern a society's relationships with cosmological forces. Technological processes are social and cultural choices whose practical consequences—the finished object—are valued and legitimated by, and operate within, the spheres of mythology, religion, and ideology. Yet, although not apart from indigenous conceptions of the world, metalworking has the potential to develop and extend the structures and metaphors of the social world. As Pfaffenberger (1992: 500) observes, "People construct their social world using the social resources and structures at hand, but their activities modify the structures even as they are produced."

As Hoskins (1998:195) has noted, individuals' social being is determined by their relationship to the objects that represent them. The recontextualization of indigenous shiny objects that presumably took place with the arrival of metallurgy, created new identities and relationships between different indigenous groups and individuals. This capacity of metallurgical technology to transform, re-create, and extend metaphorical allusions to other seemingly unassociated aspects of cultural life is seen particularly well in Hoskin's (1989) study of cloth making in Kodi, on the island of Sumba near Bali. Here, gold and other metals are part of a sacred patrimony for men, passed vertically through the generations of a single agnatic clan rather than horizontally through affinal exchanges between women. "The ancestry of men can be traced in the ancestry of swords, spears, and knives, a metaphorical skeleton of metal that symbolizes the indestructible relatedness of the patrilineage" (Hoskins 1989: 166). In the Americas, while all shiny things may share an underlying ascription of sacredness, metalworking appears to have been a uniquely male preserve, while pottery making, textile production, and perhaps other manufacturing processes could be either male or female. Metallurgy may have been the most technologically sophisticated form of the aesthetic of brilliance, but it may also have signaled a significant change in gender relations. Process is as important as the finished object.

The metaphorical associations of metal objects and metal making can be understood and expressed in terms of the fundamental processes of conception, birth, adult life, decay, and death. In this way, by analogy, the creation of metals, as with pottery, can be likened to new life growing within and emerging from the womb. Falchetti (in this volume) explores the symbolic dimensions of metallurgical processes associated by analogy with embryonic transformations inherent in solar and lunar mythology among the Colombian Desana and the notion of transformation as cooking process in a furnace or crucible. Regulating these powerful life forces is the responsibility of those individuals who bring order to matter through their knowledge of ritual.

The transformation of matter that is successful metalworking is a synergistic mix of technological expertise, ceremonial activity, and ritual knowledge (Rowlands and Warnier 1993: 535). The "mystery" surrounding metalworking as transformative creation is typical of the "secret" knowledge and activities of those engaged in curing, divining the future, or "creating socialized people" through directing rites of passage. Although these people were usually referred to as shamans, other elite individuals probably also possesed such specialized knowledge, at least in part. The Western obsession with viewing past realities through an ethnographically inspired shamanic lens blocks an understanding of the complexities of Pre-Columbian (indeed, any) sociotechnological situations (Saunders 1998b: 6). On the Orinoco, only caciques and their wives could take gold from its landbound sources, and then only after ritual observances designed to propitiate a guardian spirit (Domingo de Vera, quoted in Whitehead 1997: 79–80). Similar ritual caution, including sexual abstinence, was observed by the Taíno of Hispaniola when they acquired gold from river alluvium (Oviedo, quoted in Pagden 1993: 85) (Fig. 4).

Fig. 4 Liquid light. Amerindians panning for gold. (Theodore de Bry, in Sievernich 1990: 108.)

The Spread of Metalworking

One aspect of indigenous valuations of gold and its alloys lies in the nature of the spread of metallurgy in the Pre-Columbian world. It is clear that metals were not simply regarded as elements for improving the technical efficiency of everyday tasks as they were in the Old World. With perhaps a few exceptions, metals in the Americas had mainly symbolic and spiritual values and were used for adornment and elite display alongside other shiny media. Metallurgy spread from the Andes around 1800 B.C. to Mesoamerica by approximately A.D. 900 (Bruhns 1994: 174). The details of the mosaic of cultural imperatives that led to this transfer of knowledge remain unknown. Speculation on the topic is informed by the analogue of the initial attitudes and exchanges that characterized the encounters between Amerindians and Europeans during the fifteenth and sixteenth centuries.

European arrival dramatically changed the indigenous contextualization of what the foreigners regarded as precious metals. Amerindians traded gold and its alloys for shiny European objects on the understanding that the latter's brilliance embodied similar qualities, physical and spiritual obligations, and cosmic powers as the objects they already possessed (Saunders 1998a: 233–239; 1999: 249). It is ironic that Europeans opened the dialogue of encounter by expressing an interest in gold, which, for Amerindians, was a focus of exchange

between indigenous elites. Columbus admired the shiny copper-gold ornaments worn by Caribbean Taíno caciques and proceeded to set a continent-wide precedent by exchanging glass beads and base-metal artifacts for them (Columbus 1969: 55, 288; Sauer 1969: 131). For the local Amerindians, such shiny objects were signs that the strangers were (or were akin to) gods or spirits who "came from the sky," the ultimate source of bright cosmic power (Chanca 1932: 64; Columbus 1969: 155; Helms 1988: 265). In typically indigenous fashion, the Taíno were especially attracted to Spanish brass, as its distinctive odor recalled that of the copper component of their own guanín (Stevens-Arroyo 1988: 69; Whitehead 1997: 78).

From an Amerindian perspective, in which the possession of shiny objects symbolized power and prestige, Europeans were perceived as immeasurably powerful (Romero Frizzi 1994: 234–235). To Europeans, Amerindians were foolish and gullible, incapable of appreciating true worth (Greenblatt 1992: 110). Europeans often traded such cheap, mass-produced baubles as copper bells, brass, and glass beads for great quantities of gold (Adorno 1993: 68–69; Bray 1978: 104; Saville 1920: 33, 38). The political dimension of the numinous power of shiny European objects in Amerindian perception is highlighted by Dominique de Gourges, who in 1567 sealed a Franco-Amerindian alliance against the Spanish by distributing mirrors, bells, and rosaries of glass beads to the Florida chieftain Saturiba (Bennett 1968: 202–227). A more famous, though not uncontested, example is the case of the Dutch purchase of Manhattan around 1626 in exchange for glass beads, ribbons, and brass ornaments (Francis 1986a, 1986b).

These instances of contact period exchanges illustrate the point that whatever their original European purpose or value, various shiny items entered the social and symbolic worlds of indigenous Amerindians on a broadly equal basis as expressions of sacred light, cosmic power, and elite status. The quantity and diversity of shapes and the mechanical aptitude displayed in these European objects were not only transformed from secular fragments to sacred "art" by Amerindians, but were also seen by them as proof of the superior supernatural power of Europeans and of "mystical" technologies beyond their comprehension (see Tabeau, quoted in Rogers 1990: 75). Gell (1998: 71) makes a powerful point in this respect: The "captivation or fascination—the demoralization produced by the spectacle of unimaginable virtuosity—ensues from the spectator becoming trapped within the index [i.e., the art object] because the index embodies agency which is essentially indecipherable."

In light of the distinctive Amerindian response to European contact and exchanges of brilliant matter, it can be suggested that such events provide a model for Pre-Columbian attitudes toward the spread, that is arrival, adoption, and integration, of new kinds of shiny things, namely, metals, into long-established notions of sacred brilliance. Amerindians who traded their shiny objects for European ones did so on the understanding that they were trading like for like, the European materials being more abundant, shinier, and therefore more cosmically powerful than their indigenous counterparts. That Amerindians could not understand how glass beads, mirrors, cannon, or suits of armor were made only added to these objects' supernatural potency and to that of the white men who brought them and regarded them so casually. Unless one wishes to suggest that such Amerindian attitudes were

Fig. 5 Moctezuma's emissaries bring shiny gifts to Hernán Cortés. (From Sahagún, *The Florentine Codex*; Anderson and Dibble 1953: book 12, illustration 12.)

generated at the moment(s) of encounter, it must be admitted that these attitudes and valuations were Pre-Columbian in origin.

It is possible to suggest that during Pre-Columbian times, the spread of different kinds of shiny objects—for example, long-distance trade in ceramics, shells, shell artifacts, and greenstone axes—was motivated, in part at least, by the desire to obtain different and exotic kinds of shiny things whose glow signified spirituality and cosmic power per se, as well as the culture-specific meanings associated with particular materials' color, texture, scent, and so on. The Amerindian aesthetic of brilliance that is so evident in contact period exchanges with Europeans in all likelihood characterized Pre-Columbian trade as well.

In this way, the ideologies of gold, so dependent on the level of the sociocultural complexity of the receiving culture, emerged from prior ideologies associated with nonmetallic brilliant matter. As noted above, the arrival of metals presumably also stimulated a new range of meanings and associations that could potentially, and given time, have led to the full or partial replacement of previous materials, such as jade. In Mesoamerica, where metallurgy arrived comparatively late, gold arguably had not been fully integrated into Aztec ideology at the time of the Spanish arrival, as can be seen in the panoply of nonmetallic shiny elite gifts that Moctezuma initially sent to Cortés in Veracruz (Sahagún 1950–78, bk. 12: 15–16) (Fig. 5). Gold was but one of a number of such brilliant materials among obsidian (Saunders 1994; 2001), shells, turquoise, jade, and iridiscent featherwork deemed suitable to offer a god, or at least an unexpected and possibly supernatural stranger.

The earlier, Pre-Columbian, spread of gold objects and, later, of goldworking technologies from Colombia through Panama to Costa Rica and beyond should be seen in light of such non-Western valuations and contexts. Gold or gold alloy objects to those who had never seen metals before would have been as astonishing as European glass, brass, steel, and

glazed ceramics were to contact period Amerindians. The comparative rarity of early metal artifacts, the control of such trade by local elites, and their initially unknown and mysterious production processes combined to make them embodiments of cosmic power and elite status alongside such preexisting media as pearls, ceramics, jade, and featherwork. In this sense, the arrival of goldworking rejuvenated and extended the potentialities of social and political power of local elites by "revealing" (through costume and paraphernalia) a new and unsurpassed kind of "mysterious" brilliance. A further dimension of the "mysterious" nature of these "new" gold objects is one that resonates with ideas of geographical and symbolic distance (Helms 1988). Exotic items that appeared from beyond the physical horizon exemplified notions of sacred "space-distance-geography" so typical of the Amerindian worldview.

Metalworking in Colombia, Panama, and Costa Rica

The Pre-Columbian Archaeological Dimension

As noted, Pre-Columbian metalworking began in the Andes around 1800 B.C. It moved northward through Ecuador, Colombia, Panama, and Costa Rica, finally arriving in Mesoamerica around A.D. 900. The culturally diverse societies through which the technology traveled shared historically contingent social, economic, and political formations, religious ideologies, and mythologies. All embodied and encoded their identities and "essence" in material culture. All shared a similar worldview, where symbolic analogical reasoning underwrote the terms of existence, that is, an indigenous Amerindian system of explanation and being.

From this perspective of a shared worldview and other commonalities, the evidence from Colombia, Panama, and Costa Rica is significant in a number of ways. At a general level, there is no evidence to suggest that this region was in any way different from the rest of South America, Mesoamerica, and the Caribbean islands in terms of worldview, material culture repertoire, or in possessing notions of the aesthetic of brilliance objectified in shiny matter.

The case of greenstones, or jade, is instructive here. Throughout lowland Amazonia, greenstones were highly valued and widely traded as was also the case in the Caribbean islands (Boomert 1987; Oliver 1989: 216-217). In Mesoamerica, from at least Olmec times (ca. 1250 B.C.–400 B.C.), jade was a sacred material and remained so until the Aztec era (Fig. 6). While the Mesoamerican choice of jade to convey certain symbolic qualities in a variety of cultural and artistic styles for some three thousand years is another issue, its underlying significance is pertinent here.

Among the Aztec, greenstones connoted fertility and glistening preciousness, signaling their presence at dawn by emitting smoke and imparting greenness to the flora in their vicinity (Sahagún 1950–78, bk. 11: 221–222). This life-giving quality was signified by placing an "emerald," *chalchihuitl*, in the mouth of a deceased emperor (López Austin 1988: 326–327). By A.D. 1519, Mesoamerica had practiced metallurgy in one form or another for at least five hundred years, yet metals had not displaced jade as the signifier of the elite or taken on fertility-related qualities associated with spiritual brilliance. In other words, jade was the

Fig. 6 Brilliant jade. Two polished Olmec celts. (Courtesy of Dumbarton Oaks.)

established conveyor of brilliance long before metals arrived. When metals did arrive, they appear to have shared with jade at least some of the underlying symbolic qualities of shininess. The physical origin, appearance, and connotations of greenstones, as opposed to metals, however, suggest that the replacement (in terms of symbolic importance) of the former by the latter may have proved a long, drawn-out affair if the European conquest had not intervened.

In Costa Rica, the jade axe tradition and the corpus of reworked Maya jade celts have been seen variously as denoting an understanding by Costa Rican societies of the complexities of Maya (and pre-Maya) elite relationships and their appropriateness to contemporary Costa Rican societies (Graham 1993: 22–26; Bruhns 1996: 290; Lange 1992: 118; 1993: 303, fig. 9.19). Equally likely, however, is that Mesoamerican reworked and "imitated" jade artifacts were prime examples of brilliant objects, emanating from distant realms, at a period when metallurgy was little known or unknown further north, and had not yet displaced other shiny objects in Lower Central America. The earliest objects from the cenote at Chichén Itzá reveal an interesting and possibly transitional mix of such objects, including gold, tumbaga, and jade, whereas later deposits were dominated by metals (Graham 1993: 13, 15; 1996: 247–248).

In Costa Rica between 300 B.C. and A.D. 500, symbols of rank included carved jade pendants, necklaces, and polished jade axes (Snarskis 1992: 144–145), as exemplified by the elite burials at Severo Ledesma during the El Bosque phase (100 B.C.–A.D. 400) and at Talamanca de Tibas (ibid.: 147, and figs. 1, 2). The transitional coexistence of older and newer kinds of brilliant matter is evident in the physical association of local jades, slate mirror backs, and cast gold objects with El Bosque phase ceramics. Between A.D. 500 and A.D. 1500, gold casting replaced lapidary work in jadelike stones as a source of ritually significant symbols of elite status, such as the gold avian pendant found at Barrial de Heredia (ca. A.D. 700) (ibid.: 153),

Fig. 7 Cast gold anthropomorphic pendant from Costa Rica. (Courtesy of Dumbarton Oaks.)

the anthropomorph pendant at Dumbarton Oaks (Fig. 7), and sheet metal, large disks, and bells from the Panteón de La Reina (Quilter 2000). As Michael Snarskis notes regarding Costa Rica from 300 B.C. to A.D. 500–700, "a vigorous, prolific, and idiosyncratic tradition of jade carving flourished. . . . [Yet] after A.D. 500, drastic shifts began to occur. . . . [M]etallurgy supplanted jade carving as the principal supplier of politico-religious badges of power and authority. Gold replaced jade as the most important symbolic material" (1998: 90).

Snarskis (1998: 89) also observes that the duration of the coexistence of jade and gold is currently impossible to determine, as the two kinds of materials have only rarely been found together in archaeological contexts. Although he is of the opinion that a similar level of skilled production was a feature of earlier jade and later gold production (Snarskis 1992: 144–145), it is possible that the arrival of the latter had the potential to significantly alter the gendered relations of production in the area.

Similar developments may well have occurred in Panama. As Cooke and Ranere note, there is little doubt that the arrival of goldworking had "a profound ideological impact on local society, as it did in Costa Rica" (1992: 286). The importance attached here to the aesthetic of brilliance is not at odds with their view that "metalwork artifacts in Sitio Conte epitomize what seems to be a rather sudden change in attitudes towards wealth subsequent to the introduction of the technology: a concern for extravagant display on both the living and the dead" (ibid.). In fact, the superior reflectivity of metal adornments over those of jade, combined with the mystique of such objects made by "unknown" (that is, socially restricted) processes might argue for an increase in the elite's control of bright cosmic power and a furthering of social distance between rulers and ruled. Metal objects probably were worn not in isolation but in multimedia displays alongside jade, textiles, feathers, and shell (Fig. 8). The only certainty in this matter is that the physical appearance of elites would have been more blindingly brilliant than before.

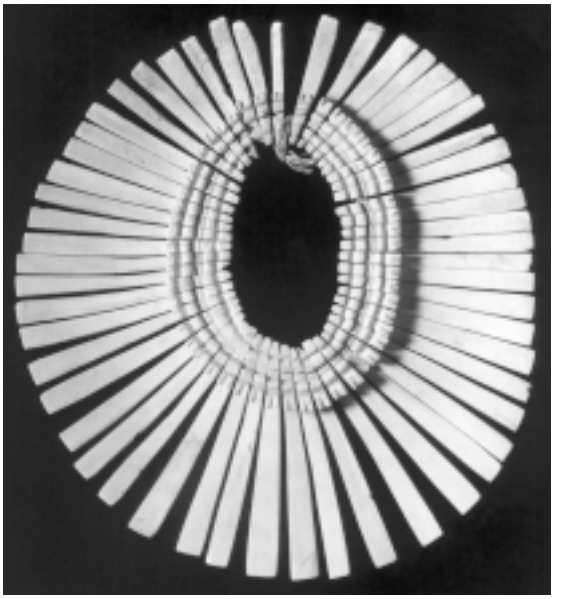

Fig. 8 Conch shell gorget from Venado Beach, Panama. (Courtesy of Dumbarton Oaks.)

The physical and symbolic association of gold with elites is well attested for Panama, where ethnohistoric and archaeological evidence reveals an extraordinary wealth of such objects, most famously at the burial site of Sitio Conte, dating to between A.D. 450 and 900 (Lothrop 1937, 1942). The earliest Panamanian examples (ca. A.D. 1–500) seem to derive from South American prototypes. Specifically, the sudden appearance of such sophisticated pieces points to Colombia; each of the diagnostic items—for example, spirals, curly tailed creatures, and twin eagles—appears in the various regional styles of Colombia (Bray 1992: 34). Given Gerardo Reichel-Dolmatoff's (1988) work on the connections between Colombian goldwork and shamanism, it is plausible to suggest that such early trade items carried a symbolic load that conveyed at a generic level certain widely shared ideas about the nature of the world, even if there was a degree of mutually unintelligible culture-specific messages.

The phase known as the International Group (A.D. 400–900) is particularly interesting. During this time, it is widely accepted that the region from central Colombia to northern Costa Rica was one metallurgical province with a single goldworking tradition, albeit with local variations (Bray 1992: 35). At this time, the five major categories of objects, in the international style, were human figures, bells with cylindrical handles, crocodiles, Darién pendants, and animals with recurved tails.

Bray (1992: 35) theorizes that the widespread acceptance of such images might have been due, in part, to their neutral iconography, which displays no direct associations with any regional mythology or system of representation. This is a likely explanation, based on form, though it is perhaps not the only one. This geographically widespread, chronologically persistent, and culturally cross-cutting phenomenon could equally have been due, if only in part, to the widespread acceptance of highly polished metal as a conveyor of sacred brilliance (with all its symbolic connotations). The aesthetic of brilliance is arguably more likely to have been a widespread phenomenon than would a cross-cultural acceptance of diverse

views and representations of various objects and anthropomorphic and zoomorphic beings.

As material culture is a synergistic mix of matter and form, what was "new" was arguably less the iconography, inoffensive or not, than the material—the gold itself. Human or animal shapes would have been familiar from life and art, but their materialization in an unknown substance whose brilliance was unmatched by any other known material, and whose "magical" production was presumably surrounded by shamanic mystification, would have made as powerful a psychological impact around A.D. 500 (or before) as it did on Amerindians confronted by 15th- and 16th-century European metal objects. There is much contact period documentation that seems to suggest that it was brilliant matter itself rather than its often banal shapes that so impressed Amerindians at this time, and which stimulated initial exchanges (Saunders 1998a: 233–239).

There is a case to be made that the prehistoric arrival of gold in Panama and Costa Rica might have been more impressive to the local population than to later contact period Amerindians as the former by definition had never seen metals whereas the latter had long been familiar with them. The association of these two otherwise historically distinct and different episodes, separated by about a thousand years, arguably has as much, and possibly more, to do with (probably elite) acceptance and manipulation of metals and their inherent brilliance than the specifics of style or iconography, though the two are not necessarily mutually exclusive.

From this perspective, it is significant that Helms (1993) has identified a more specific example of the aesthetic of brilliance at work in polychrome ceramics of Panama during the period A.D. 500 to A.D. 1100, a period that matches almost exactly the dates for the International Group. Helms (1993: 210) looks "beyond style to consider underlying meaning and symbolism" in an approach that focuses on the potential linkages between color and brilliance in animal species, their encoding in mythology, and their manifestation as iridescent material culture (polychrome ceramics). One of her concluding remarks seems prescient: "metallurgy and polychrome ceramics expressed pure light and energy and the colourful constituent components of that light and energy, respectively" (ibid.: 245).

The Post-Columbian Ethnographic Dimension

The ritual, political, symbolic, and cosmological significance of gold and its alloys continued beyond the nominal end of the International Group around A.D. 900 (Bray 1992: 34). As Oscar Fonseca Zamora and John Hoopes (in this volume) point out, European accounts of the sixteenth century and subsequently emphasize the widespread use of gold throughout the region under discussion, and indeed to the present day in the wider Chibchan-speaking area, among the Guahibo (Betania 1964, quoted in Falchetti, in this volume), the Caribbean Kuna (Briggs 1993: 151; Nordenskiöld 1979 [1925]), and Andean Kogi (Reichel-Dolmatoff 1981: 22–23, 26).

Contact period accounts tell of the gold-wearing habits of local elites and their almost obssessive stealing and accumulation of such materials. Ferdinand Columbus (quoted in Cooke

and Ranere 1992: 286) observed the penchant of native leaders on the Caribbean coast for wearing "gold mirrors and eagles," and Gaspar de Espinosa (quoted in ibid.) relates how one chief, Caubaco, wore a thousand *castellanos* of gold when raiding other tribes. Bray (1992: 33) similarly quotes Espinosa's eyewitness account of the corpse of Chief Parita, laid out covered in gold. The nineteenth-century wearing of gold ornaments by Antonio Salddaña, last of the Bribri kings, is a more recent case in point.

Particularly notable is the similarity of these accounts to others relating to the wider region that are also concerned with gold, light, and the objectified aesthetic of brilliance. As Helms (1979: 87) notes, a Darién chief told the Spanish that his golden ornaments came "from the sky," exactly the same way that the Taíno of the Greater Antilles regarded numinous shiny objects and the Spanish who wore them as "coming from the sky," the ultimate source of bright cosmic power (Chanca 1932: 64). During Cabeza de Vaca's 1534–36 sojourn in Texas, shamanic curing stones (possibly crystals) were associated by local Amerindians with the Spanish, and both were believed to have "come from the sky" (Adorno 1993: 62).

Another indicator that gold and its alloys were symbolically equated in indigenous conceptions of sacred power and cosmic energy lies in attitudes toward pearls, as revealed by their prominence in sixteenth-century exchanges between Amerindians and Europeans. European accounts record the apparent diffidence of Amerindians to the large quantities of pearls and gold that they were willing to exchange for European trade goods, especially the newest, "mystical" material in the form of glass beads. In 1515 Gaspar de Morales noted how local Amerindians in the Gulf of Panama were keen to exchange 880 ounces of pearls for some mirrors, scissors, and axes (Kunz and Stevenson 1993 [1908]: 236).

Conclusion

The geographical and cultural area encompassed by the modern political boundaries of Costa Rica, Panama, and Colombia offers a unique opportunity to explore the archaeological correlates of ideological activity in terms of the aesthetic of brilliance. The issues raised are fundamental to understanding indigenous attitudes toward shiny matter and to acknowledging the place of metallurgy in Amerindian conceptions of the world.

What were the cultural mechanisms that articulated the initial encounters of non-metal-using peoples with metal objects? Or, put slightly differently, what was the nature of (presumably variable) cultural responses to metals in terms of prior established attitudes toward nonmetallic shiny matter? What were the social, economic, and political consequences of the adoption of metalworking in terms of the potential increase in visual brilliance (that is, objectified sacred power) accessible to elites? Did metal objects transcend their status as the shiniest kind of matter by virtue of their technological complexities and thereby alter the gendered and politicized relations of production?

These are difficult questions. In attempting to answer them one must move beyond (though not ignore) descriptive analyses of form and technique and consider wider issues concerning the materiality of indigenous philosophies of light. Amerindian attitudes toward

this natural phenomenon structured cultural responses to all shiny matter, whether natural or artifactual, physical object or esoteric knowledge. All are potentially of a piece, or at least can usefully be considered as such in the quest to extend interpretive horizons.

In this sense, the power of gold stemmed partly from age-old notions of sacred brilliance and partly (and perhaps increasingly through time) from the unforseeable economic and political consequences of the embedding and sedimentation of metallurgical technologies within social structures. If the ethnohistorical and ethnographic records are a reliable indicator of Pre-Columbian realities, the sacred brilliance of natural phenomena, ritual knowledge, glowing oratory, shiny matter, and technology were fused as one. Power, object, technological process, and enchantment were inextricably linked in the ebb and flow of cosmic forces in a universe conceived and governed by the symbolic propensities of analogical reasoning.

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Goldwork and Chibchan Identity: Endogenous Change and Diffuse Unity in the Isthmo-Colombian Area

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Introduction

An 1892 portrait of Antonio Saldaña, the last hereditary chief of the Bribri, shows him wearing a necklace of ancient bird pendants with surfaces of pure gold (see the frontispiece). His status and power permitted him to wear these ornaments, which as ancient talismans also conferred power upon him. Saldaña's use of these ornaments invoked Pre-Columbian authority, which was in turn derived from heredity and identity. It is likely that Saldaña believed the power of these *aguilas* would protect him from the aggressions of Western development in the ancestral territory of his people. The power of gold in indigenous societies of Central and South America was inextricably linked to its ability to draw upon the power of ancient identity for expressions of power in the world of the present. This attribute of gold derived from its specific place in what Eric Wolf terms the "structure of power," in which identity, mythology, and material culture are used to create ideology, "a complex of ideas selected to underwrite and represent a particular project of installing, maintaining, and aggrandizing power in social relationships" (Wolf 1999: 55).

Social identity is frequently described by reference to kinship, particularly ancestry. Wolf's examples of the Aztecs, Kwakiutl, and Nazis, as well as of the royal families of England, the Ivory Coast, and Thailand demonstrate how power can be derived from an ability to trace ancestry far back in time, including mythological time; genealogical relationships to sources of power are used to justify noble identity. For the Late Classic Maya, much power and authority derived from the ability of an *ahau* (lord) to document his lineage, tracing it to the origins of the then-present world and linking it to the identities of specific celestial bodies. The same was true of the Inka emperors, who traced their ancestry to the mythical hero Manco Capac, in turn descended from the sun (Urton 1990). Gold iconography in southern Central America and northern South America is replete with references to origins, ancestors, and relationships of kinship between powerful actors and elements of the natural world. As such, it communicates information about the identities of the individuals who used it. These identities played a critical role in the structure of power.

A useful step toward comprehending relationships between gold and power in Pre-Columbian societies is to reconstruct the "identity" of peoples within the historical and geographic spaces in which these relations were manifest. Identity derives from heredity, language, territory, and histories of common experiences. The widespread use of specific styles of gold and *tumbaga* objects in Costa Rica, Panama, and Colombia suggests the existence of a certain level of identity that was common to the region as a whole. Multiple lines of evidence from linguistics, genetics, ethnohistory, and archaeology indicate significant continuities in language, population, worldview, and material culture within a portion of the Intermediate Area, offering a rich context for the interpretation of ancient identity. Such context illuminates the origins and the sixteenth-century configuration of people who distinguished themselves by the use of gold and tumbaga ornaments at the time of the Spanish conquest. Reconstitution of an indigenous identity also has the potential of empowering living indigenous peoples whose heritage is often interpreted as comparing unfavorably with that of Mesoamerican and Andean peoples.

The central portion of the Intermediate Area was not inhabited by an unrelated collection of independent tribes and chiefdoms, but by people who shared a common genetic, linguistic, and cultural heritage stretching back several millennia. The concept of an Isthmo-Colombian Area[1] is especially useful for the reconstruction of ancient identities that may have contributed to the constitution of power in ancient Costa Rica, Panama, and Colombia. This operative concept draws upon multiple lines of evidence from linguistics, genetics, ethnohistory, ethnography, archaeology, and art history. In a fashion similar to the way Mayan languages have helped define a research area, the distribution of Chibchan languages in particular can be used to outline a historical space whose "diffuse unity" provides a viable context for the interpretation of ancient goldwork, social organization, and cosmology in the region.

Linguistic patterns gleaned from ethnohistoric sources and modern field research provide an important point of departure for the investigation of historical processes in Pre-Columbian times. When these are combined with modern genetics and archaeological data, an interdisciplinary model emerges for in situ culture change associated with specific populations that challenge the concept of this region as one that was peripheral (and characterized by migration rather than relative population stability) with the notion that it was a *center*, characterized by endogenous change in populations of common ancestry who shared elements of cosmology, worldview, and distinctive forms of social organization that may inform us about the relationships among gold, power, and ideology.

The definition of an Isthmo-Colombian Area is far from problematic. Just as Mixe-Zoquean speakers framed Mayan speakers, or as the Quechua world of the southern Andes drew upon the experience of Aymara neighbors, the Isthmo-Colombian Area shared a complex dynamic that included internal linguistic frontiers between Chibchan and Chocoan speakers as well as external frontiers with Carib, Paézan-Barbacoan, and Amazonian neighbors.

[1] The "Isthmo-Colombian Area" does not include all of Colombia, which is also comprised of areas that may be included in the Caribbean, Amazonian, and Andean areas. The Caribbean area, for example, would include populations of the islands and littoral regions who did not speak Chibchan languages but those in the Carib and Arawakan families.

Gordon Willey (1971: 278) notes, however, that for the Intermediate Area "there are no horizon styles comparable in scope to those of the Peruvian area. The closest approach to such horizontal phenomena is seen in the goldwork of Colombia and Lower Central America." The use and symbolism of gold and tumbaga in combination with recent interpretations of linguistic and genetic evidence appear to highlight the existence of an "Isthmo-Colombian" culture area that supplants older notions. Gold artifacts have the potential to reveal common ideas whose age often predates its expression in metallurgy. Gold jewelry also existed within social and conceptual contexts in which language, kinship, and ecology conditioned the use of symbols by individuals who sought to affect relationships and behavior among others.

Definition of the Isthmo-Colombian Area

There is an increasing dissatisfaction with the connotations of the terms *Intermediate Area* (Haberland 1957; Lange 1992a; Rouse 1962; Willey 1971; Willey 1959) and *Lower Central America* (Baudez 1963; Lange and Stone 1984; Lothrop 1966; Willey 1971). The Intermediate Area includes an enormous diversity of cultural groups between western Honduras and northern Peru. It was initially conceived as an area distinguished by participation in general patterns of Nuclear America, but lacking unifying, Formative "great styles," such as those of the Olmec or Chavín (Willey 1959). Despite Willey's noteworthy efforts at defining an "Intermediate Area Cultural Tradition" (Willey 1971: 277–278), the great diversity of characteristics he describes did not include observations about ideology or worldview. Furthermore, the name *Intermediate Area* has taken on negative connotations and definition by what is *not* known rather than what *is* known of it (Sheets 1992). The term also carries implicit diffusionist and evolutionist connotations, given its position between Mesoamerica and the Andean area as a *raison d'etre*—the explanation that eventually defines it.

Lower Central America was initially used for the region south and east of Mesoamerica, excluding South America on geographical grounds (Baudez 1963). It has its historical roots in ethnocentric formulations such as Kirchhoff's (1943: 93) divisions of "superior cultivators" and "inferior cultivators." The Chibchan language family, first identified by Max Uhle (1890) is the largest in this general region, and may prove to be the oldest. It inspired Kirchhoff to attempt to identify a "Chibcha" culture area in the same paper in which he presented his classic definition of Mesoamerica (Kirchhoff 1943). His notion of a culture area based upon Chibchan-speaking populations, however, was largely disregarded by area scholars, who continued to define the region not as a center but as a periphery, "lower" in a cultural evolutionary sense and "intermediate" in a geographical sense relative to the areas of "high" cultures and state societies to the north and south (Sheets 1992).

General syntheses of Lower Central America failed to account for specific cultural continuities with Colombia until Warwick Bray's "Across the Darien Gap" (1984). The idea of defining an area based upon Chibchan populations that included portions of northern Colombia received renewed attention when his essay was translated into Spanish (Bray 1990). Upon undertaking a synthetic work on the archaeology of Costa Rica, Oscar Fonseca Z. (1992) considered it necessary, in order to organize the data known up to that moment, to

propose an alternative culture area: the Chibcha Historical Region. The nomenclature has been successively revised thus: from Región Histórica Chibcha (1992; Fonseca and Cooke 1993) to Región Histórica Chibcha-Chocó (Cooke 1993) to Área de Tradición Chibchoide (Fonseca 1994) and Área Histórica Chibchoide (Fonseca 1997; 1998).[2] Although Chibchan populations—defined on the basis of linguistic and genetic evidence—were central to the area's character, there are problems with terminology linked to specific linguistic or ethnic terms. For example, *Chibcha* is an alternative name for the Muisca of highland Colombia, a group not at all typical of Chibchan-speaking populations as a whole.[3] The "Isthmo-Colombian" designation acknowledges the strong relationships between Central America and northern South America while avoiding conflicts inherent in the use of terms with specific cultural meanings, such as *Chibchan* or *Chibchan-Chocoan*. Isthmo-Columbia is intended, however, to emphasize the critical importance of portions of northern Colombia,[4] discussion of which is included in the seminal *Archaeology of Lower Central America* (Lange and Stone 1984), yet significantly underrepresented, along with Ecuador and Venezuela, in the more recent *Wealth and Hierarchy in the Intermediate Area* (Lange, ed. 1992). The *Isthmo-Colombian* designation is intentionally more restrictive than the broader Intermediate Area concept, which despite significant improvements remains limited in its interpretive value (Sheets 1992).[5]

Willey drew a distinction between cultures of the Intermediate Area and those to the north and south, suggesting that cultures of "Middle America"[6] were "participating not only in common technical traditions but in an ideational heritage" from Late Formative times on and that Formative populations of Mesoamerica and the Andean region were "sharing in a widespread idea system and transmitting at least a part of this system to later generations and cultures" (Willey 1959). While there may not have been a unifying great style for the Isthmo-Colombian Area, a growing body of evidence supports the notion that shared worldviews were one feature of a "diffuse unity" that conditioned the structuring of power among Chibchan-speaking peoples from the first centuries B.C. until the sixteenth century. Although the specific ideologies have been lost, elements of them remain in the iconography of gold and tumbaga ornaments. Some of these continue to play a role in indigenous identity in the region today.

The identification of culture areas as research zones has a long history in archaeology (Wissler 1938). Despite strong critiques (Creamer 1987; Lyman, O'Brien, and Dunnell 1997), they continue to structure syntheses of knowledge found in textbooks and museum exhibitions, affecting the self-identification of research professionals and the com-

[2] We had suggested the term *Chibcha Nuclear Area* in 1999, but this was set aside after subsequent commentary and discussion.

[3] Kirchhoff (1943) specifically excludes the Muisca from his "Chibcha" taxon for having "Andean cultural affinities."

[4] The term *Isthmo-Colombian* does not include all of the modern nation of Colombia, which might be best divided culturally into Andean-Colombian and Amazonian-Colombian areas.

[5] Many of Sheets's remarks would have to be modified to address the archaeological records of Colombia, Ecuador, and Venezuela, which were not included in his discussion of the Intermediate Area.

[6] The civilizations of Middle America are defined as Lowland and Highland Maya, Monte Alban, Tajín, and Teotihuacan (Willey 1959).

position of academic departments. Concepts such as Mesoamerica, the Intermediate Area, the Central Andes, and the Circum-Caribbean Area result from a particularistic and functionalist focus rooted in a paradigm of culture history that is heavily influenced by cultural evolutionary concerns, perspectives that guide their interpretation using morphological characteristics of archaeological remains and their distribution. By nature, they tend to privilege certain processes, such as reliance upon domesticated food sources, centralized authority, and urban settlement patterns. Concerns with the origins of state societies tend to ignore alternative trajectories.

In defining an Isthmo-Colombian Area here, priority is given to the convergence of multiple lines of evidence and to diachronic rather than synchronic elements, specifically the long-term occupation of the region by endogenous populations sharing common genetic and linguistic traits for which there is evidence of continuity of occupation but limited evidence for migration or external control. Some population movements must be acknowledged. These occurred when the area was first occupied in Paleoindian times, when Mesoamerican groups settled portions of Nicaragua and Costa Rica during the Epiclassic (Constenla 1994; Fowler 1989), when Carib populations began to occupy parts of northern Colombia (Constenla 1991), and when Chocoan Emberá and Waunaan populations moved from Pacific Colombia into the Darién (Herlihy 1985; Pardo 1987). The antiquity of Chibchan-speaking populations in the Sábana de Bogotá remains a topic of some debate (Lleras 1995). Recent linguistic and genetic data, however, suggest that the principal populations of Costa Rica and Panama were Chibchan speakers whose in situ lines of genetic descent may date back more than ten thousand years.

The linguistic and human genetic patterns that can be reconstructed for the Isthmo-Colombian Area imply a long-term dynamic of sociocultural interaction within a specific geographic-ecological unit. The linguistic and genetic affinities of its indigenous population suggest a common ancestry in terms of physical descent and consciousness. Kinship and language, which tend to be highly correlated, played essential roles in conditioning contexts for historical phenomena. Ancestral speakers of Chibchan languages, represented today by living populations with varying degrees of indigenous linguistic and cultural identity, appear to have had shared sociocultural experiences within specific spatial limits over an extended period of time. Here the term *diffuse unity* is used to refer to the effects of a cultural process distinct from territorial political centralization or dissemination of ideology from a central source. This "unity" is characterized by elements of a common worldview, historical heritage, a shared succession of endogenous cultural changes, and similar realities. The endogenous process of social change provided a way for groups that were ancestrally related to establish narrower relationships among themselves in territories of greater or smaller extent (Fonseca and Cooke 1993).

Thomas Myers was one of the first to address the issue of early cultural relationships by focusing on what was then called the Tecomate Tradition of Formative Nuclear America. He notes, "Predictably what we find is that adjacent cultures tend to resemble each other more closely than they resemble more distant cultures. Conceptually, this could be viewed as a series of overlapping cultural circles which link the civilizations at each end of the Interme-

diate Area" (Myers 1978: 205). The Isthmo-Colombian Area can be conceived as an interaction sphere within which populations were specifically related through genetic descent over time and distinguished by shared elements of a common linguistic and ethnic heritage in a context of diffuse unity, but which also had elements conditioned by a geographical cline distinguishing east from west. The concept of diffuse unity does not imply the existence of a Pax Chibcha. To the contrary, conflict appears to have been endemic, with boundary protection and maintenance a key element in marked cultural diversity and sharp contrasts between neighboring regions in spite of cosmological unity. This "unity with conflict" is similar to that expressed in the Guaymí concept of *etabalí*, or ritual brotherhood:

> The *etabalí* relationship, considered as a bond of brotherhood, symbolizes, on the one hand, the union of two groups within a larger one, similar to a large kinship group that requires strong feelings of hospitality and cooperation among its members and establishes ideal notions of the comportment of relatives. On the other hand, it represents the lineage along whose length the fragmentation of the group is produced, with its inevitable consequences of opposition, aggression, and discord (Young 1978) [authors' translation].

The Isthmo-Colombian Area

The Isthmo-Colombian Area is defined by populations that inhabited a geographical area within which is found evidence for long-term continuity in populations from Paleoindian times to the present. The core populations are speakers of the Chibchan language family. The Chibchan stock represents the most diverse and widely distributed language family within what previous researchers have referred to as the Intermediate Area; it is distributed from eastern Honduras to Lake Maracaibo, Venezuela,[7] and includes at least twenty distinct languages spoken in Honduras, Nicaragua, Panama, Colombia, and Venezuela (Constenla 1991: 30). Because information on these populations and their languages remains incomplete and fragmentary, the exact limits of this area are poorly defined. The Misumalpan and Chocoan language families are believed to have separated from Proto-Chibchan before the separation of Chibchan prior to 7000 B.P., a time when populations were small (Constenla 1991; 1995). Linguistic commonalities among the Chibchan, Misumalpan, Chocoan, and Paézan languages are best explained through their participation in a common sphere of interaction. The use of Chibchan languages by populations with evidence for long-term genetic relationships is, however, the principal marker of the Isthmo-Colombian Area.

Northern Limits. The northern limit of the Isthmo-Colombian Area is in eastern Honduras. The Pech (Paya) are the northernmost of the Chibchan-speaking groups (Constenla 1991). Modern Pech populations are found on the north central coast of Honduras, as well as in the Municipio Dulce Nombre de Culmí of the department of Olancho. There are also

[7] Inclusion of the Orinoco is suggested by some Yanomamo linguistic and genetic data (see below).

ethnic Pech in Santa María del Carbón, but the language is nearly extinct there. Whether the Pech represent a northern migration of ancient Chibchan speakers or a remnant population from what was once a larger Chibchan territory is unknown. The archaeology of eastern Honduras remains less well known than most other regions of the country, but there are important affinities between the material culture of Selin Farm and Caribbean Costa Rica. Recent work in the Talgua Valley by James Brady and the late George Hasemann revealed the existence of extensive mortuary remains in caves in association with substantial settlements, several of which have aboveground architecture (Beaudry-Corbett et al. 1997; Brady 1997; Brady, Hasemann, and Fogarty 1995). Christopher Begley (n.d.) documents numerous complex settlements in the Dulce Nombre de Culmí region dating after A.D. 1000 and identifies modern Pech as the most likely descendants of the populations responsible for these remains. There is, however, a pressing need for a genetic evaluation of Pech ancestry.

The northern frontier of the Isthmo-Colombian Area is defined by the diffuse boundaries that would have existed among Lenca, Jicaque, and Misumalpan languages and Chibchan languages. Although the former have characteristics that can be used to argue for affinities with Chibchan, they also have sufficiently distinct features that allow their classification as separate language groups. Linguistic characteristics such as postpositions and the genitive-substantive order shared with South American populations mark a clearer border with Mesoamerica (Constenla 1991: 129). Gold and tumbaga are exceptionally rare in the areas where these languages were spoken, although some elements of metallurgical iconography are present in stone and pottery. This dearth may be due to an absence of raw material, but the paucity of gold objects acquired by trade suggests that these objects did not have the same significance for northern groups as they did for those of the south. However, early Spanish references to goldworking in Taguzgalpa, a province in central-eastern Honduras, suggest the full story of gold in this region has yet to be told.

Northwestern Costa Rica is tentatively included within the Isthmo-Colombian area on the grounds that it may have been occupied by Chibchan-speaking groups throughout most of its history (Constenla 1994; Fonseca 1994). This is consistent with evidence that the principal incursions of Oto–Manguean- and Nahuat-speaking peoples did not begin until about A.D. 800 for Pacific Nicaragua and possibly A.D. 1200 for Guanacaste (Fowler 1989). A large number of characteristics from earlier periods are shared with Chibchan-speaking regions of Costa Rica, among them goldwork (which is less well documented archaeologically in Pacific Nicaragua). The material culture of the earliest ceramic-using populations up through the end of the Zoned Bichrome period shares more patterns with regions to the south than to the north. In fact, there are significant similarities between the earliest Formative complexes from western Nicaragua southward into western and central Panama.

The Core of the Isthmo-Colombian Area. Costa Rica and Panama constitute the historical core and the modern center of Chibchan populations. More than 95 percent of all surviving ethnically indigenous Chibchan populations live in these two countries. Their total number may have surpassed the 500,000 estimated for the Muisca of highland Colombia (Reichel-Dolmatoff 1978: 97), the other area of demographic concentration of Chibchan speakers.

Both linguistic and genetic data suggest that Costa Rica and Panama may have been the home of the original Proto-Chibchan speakers, giving this region the oldest Chibchan populations. Chocoan populations can currently be found in Darién province, eastern Panama, and along the Pacific coast of northwestern Colombia (Fig. 1). The culture history of central and eastern Panama is quite complex and includes the extinction of the Cueva (whose linguistic identity is unclear) shortly after European contact (Romoli 1987), a reoccupation of certain parts of the territory by (Chibchan) Kuna, and more recent incursions of Chocoan-speaking Waunaan and Emberá from Pacific Colombia (Pardo 1987). We may never known the linguistic identity of the ancient populations of Parita Bay or the Santa María Valley or of sites such as Sitio Conte or Cerro Juan Díaz (Cooke, personal communication, 1999). Kuna linguistics, genetics, and oral history, together with the existence of Chibchan speakers to both the east and west of this zone, suggest it was partly occupied by Chibchan populations at one time.

Adolfo Constenla Umaña has classified all of the Chibchan languages of Nicaragua, Costa Rica, and Panama into the Votic and Isthmic subfamilies. The languages in the Votic subfamily include Rama, spoken on Rama Cay in Caribbean Nicaragua, and Maleku,[8] spoken in the Llanuras de San Carlos of northern Costa Rica. The Isthmic languages range from Bribri and Cabécar in central and southern Costa Rica to Kuna, spoken in Darién and the Gulf of Urabá, Colombia, to the south. The Isthmo-Colombian Area may therefore include the eastern seaboard of Nicaragua, as represented in historic times by Rama at the mouth of the Río San Juan. With the exception of Maleku and the Oto-Manguean and Nahuat populations in Guanacaste, that were the result of southward migrations from Chiapas, Guatemala, and Mexico in the Early Postclassic (Constenla 1994; Fowler 1989), all of the indigenous peoples of Costa Rica spoke Chibchan languages in Constenla's Isthmic subfamily. These include the Viceític subgroup of Cabécar and Bribri as well as Boruca and Tiribí.[9] Constenla is of the opinion that the now-extinct Votos, whose territory in the sixteenth century included an intermediate geographic position between the Ramas and the Malekus, were also Chibchan speakers. Their territory at the time of European contact appears to have been coterminous with that of the now-extinct Huetars, the dominant Chibchan-speaking population of central Costa Rica. The most widely spoken language of sixteenth-century Costa Rica was Huetar. Studies of historically documented personal names, place names, and a small surviving vocabulary have also identified this extinct language as Chibchan (Quesada 1990, 1992, 1996). Corobicí is another extinct language that is likely to have belonged to this family.

The languages of western Panama include Tiribí, also spoken in eastern Costa Rica, the modern Guaimíic subgroup of Ngöbere,[10] Movere,[11] and Bocotá,[12] and the virtually extinct

[8] Alternatively, Guatuso.

[9] Alternatively, Térraba, Teribe, Tirrribi, Nortenyo, Quequexque, and Naso.

[10] Alternatively, (Western) Guaymí, Valiente, Chiriquí, Ngábere; (Eastern) Tolé, Chiriquí, Ngäbere'.

[11] Alternatively, Move.

[12] Alternatively, Bokota, Bogota, Bofota, Bobota, Bukueta, Buglé, Buglere, Nortenyo, Murire, Sabanero, Veraguas Sabanero.

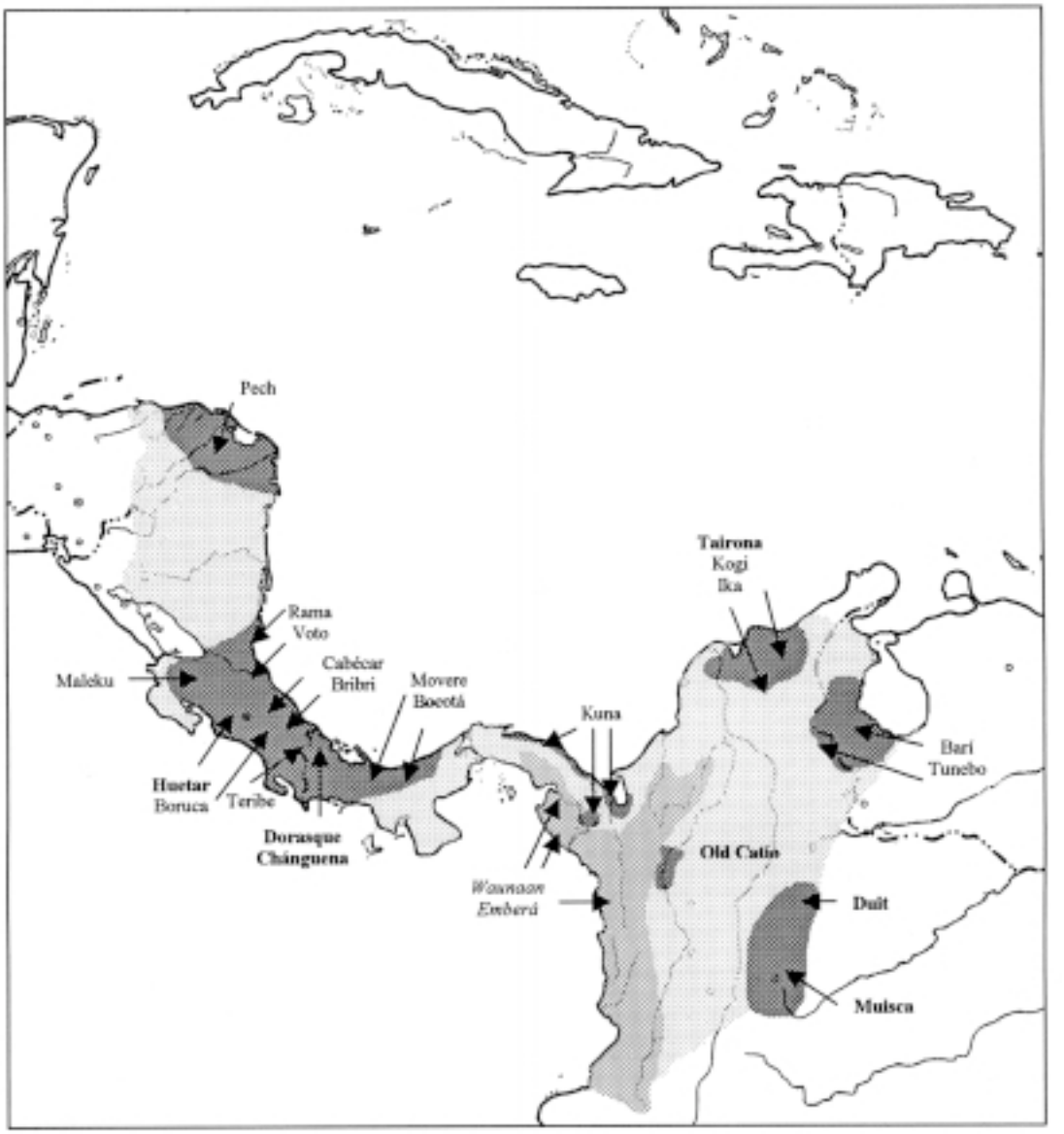

Fig. 1 Approximate areas where Chibchan (dark gray, roman type) and Chocoan (medium gray, italic type) languages are predominately spoken. Light gray areas indicate related Isthmo-Colombian territories. Extinct languages are in bold.

Doracic subgroup of Dorasque and Chánguena. Eastern Panama presents a significant linguistic frontier between Chibchan and Chocoan speakers. The principal Chibchan group is the Kuna,[13] who occupy the San Blás Islands and the Gulf of Urabá in neighboring Colombia. Kuna has been classified within the Isthmic subfamily, which includes most of the other Costa Rican and Panamanian Chibchan languages. To the east of Kuna, Chibchan languages are classed within the Magdalenic subfamily.

[13] Alternatively, Cuna, San Blás Kuna, Paya-Pucuro Kuna, Caiman Nuevo.

Southern and Eastern Limits. In Colombia, the Chibchan family includes languages in the Madgdalenic subfamily, which has two basic divisions: Arhuácic and Cundicocúyic. Arhuácic includes Kogi,[14] Ika,[15] and Damana[16]—currently spoken in the Sierra Nevada de Santa Marta—as well as Atanques. Cundicocúyic includes the extinct Muisca[17] language along with Duit and Tunebo. Old Catío, Nutabe, and Tairona may have been languages in this subfamily but are now extinct. The Isthmo-Colombian Area therefore includes the distinctive regions of the Sierra Nevada de Santa Marta, home to the ancient Tairona and the modern Kogi, Ika, and Damana (Reichel-Dolmatoff 1985; 1991b), the Sabana de Bogotá, the highland center of ancient Muisca society, and the Colombian departments of Cundinamarca, Boyacá, and Duitama.

The antiquity of Chibcha populations in the Sábana de Bogotá is currently a matter of some debate, centering on interpretations of a historical disjunction between the Herrera phase and Early Muisca populations (Langebaek 1995; Lleras 1995). The diversity that characterizes languages within the Isthmic subfamily is one of the principal reasons for identifying Costa Rica and Panama as the core of the Isthmo-Colombian Area. The greater diversity in Chibchan languages to the west and north than to the south and east suggests greater antiquity in the former. Evidence for genetic affinities of long duration with strong geographical continuity support this interpretation.

Chimila[18] and Barí[19] have also been classified as Chibchan languages (Constenla 1991; 1995), suggesting that an eastern extension of the Isthmo-Colombian Area should also include territory along the western portion of Lake Maracaibo, including the Catatumba region in Venezuela. These appear to have been Barí[20] territory at the time of Spanish contact, and archaeological evidence of the Berlín ceramic tradition may be associated with ancestors of the Chibchan-speaking Barí (Arvelo 1996).

The Chocoan Frontier. Among the principal cultural frontiers within the central and southern part of the Isthmo-Colombian Area were those between Chibchan and Chocoan speakers. Chocoan languages are found in eastern Pacific Panama and southward across northwestern Colombia to the Pacific coast as far south as the Cayapas River in Ecuador. Mary Helms notes that several scholars favor the hypothesis that "the linguistic and cultural patterns of at least eastern Panama . . . the lower and middle Atrato region, the Western Cordillera, and perhaps also the lower to middle Cauca valley could be considered a single cultural sphere" (1979: 151), citing Hermann Trimborn (1948: 47, 53, 192–193, 204) and Carl Sauer (1966: 238–239). Warwick Bray notes that "archaeologically, there is no doubt that Pacific

[14] Alternatively, Cogui, Coghui, Cagaba, Kagaba, and Kaggaba.

[15] Alternatively, Arahuaco, Aruaco, Ica, Ijca, Ijka, Ika, Ike, Bíntucua, Bintuk, Bíntukua, and Pebu.

[16] Alternatively, Guamaca, Guamaka, Malayo, Marocacero, Marocasero, Maracaserro, Sancá, Sanja, Sanka, Arosario, Arsario, Wiwa, Huihua.

[17] Alternatively, Chibcha and Mosca.

[18] Alternatively, Caca Weranos, San Jorge, and Shimizya.

[19] Alternatively, Motilón, Motilone, and Dobocubí.

[20] Alternatively, Dobocubí.

Darien formed a single culture province from, at latest, the time of Christ right up to the Conquest. The northern frontier of this province coincides with the limit of Cueva speech near Chame, west of the Panama Canal, and the southern boundary falls near Bahia Solano, in the Colombian Choco" (1984: 329). These territories correspond to those of Chocoan speakers, with the exception of the Chibchan Kuna.

The Chocoan family includes Emberá and Waunaan, currently spoken in Darién. Cueva, spoken in central Panama, may have represented a strong Chocoan presence there.[21] In Colombia, the Chocoan area is bounded to the east by the Sinú and San Jorge Rivers up to a western line delimited by the Cauca River. The inhabitants of the Sinú and Cauca Valleys appear to have been mainly Chocoan speakers. Jacinto Jijón y Caamaño (1938) was the first to note the correspondence between Chocoan languages and certain archaeological remains. The distribution of Chocoan languages corresponds to the regions of the sixteenth-century population centers of Dabeiba, Finzenú, and Panzenú and to the archaeological regions of Estorbo, Cupica, Betancí, and Calima (Constenla 1991: 48). It is at present unknown whether the classic Quimbaya of the Middle Cauca Valley were Chocoan or Chibchan speakers; there are hints in favor of each.

Chocoan speakers may have played a major role in the interactions that took place from Quimbaya to Coclé and that resulted in similarities between Coclé and Calima goldwork. The Bay of Cupica, on the Pacific coast of Colombia in the heart of a Chocoan linguistic region, appears to have played a key role in the transfer of metallurgical knowledge and styles between the Cauca Valley and central Panama. Cupica IV burials contain imported Macaracas Polychrome vessels from Coclé in central Panama along with local wares related to types from Betancí (Bray 1984: 330; Reichel-Dolmatoff and Reichel-Dolmatoff 1961). That this relationship may have a long history is suggested by the pottery styles from Cupica I burials, which are decorated with plastic techniques reminiscent of La Mula-Sarigua and Cerro Juan Díaz as well as sites in the Pacific lowlands of eastern Panama. Bray (1984: 330) hypothesizes that this ware, when it appears on the Atlantic side of Panama, may have been imported from the Pacific (Drolet n.d.: 222–227).

The linguistic affinity of the inhabitants of central Panama, particularly in the critical zone that includes early Monagrillo ceramics, the Coclé culture, and the sixteenth-century chiefdoms of Parita and Natá, remains unknown for lack of evidence. Very little linguistic data was collected in this region in the sixteenth century, and few traces of indigenous languages survive. The strongest evidence points to external contacts and exchanges with the Pacific coast of Colombia and the Quimbaya culture of the Middle Cauca, suggesting that this region may have been Chocoan rather than Chibchan. This interpretation, however, is complicated by similarities between La Mula/Sarigua ceramics and early pottery of eastern Costa Rica, an area that was historically Chibchan. Archaeological evidence from the site of El Caño, near Natá, indicates the use of rounded river cobbles to construct house mounds in a fashion similar to that in areas of Chibchan-speaking populations of Costa Rica (Fonseca

[21] Constenla, disagreeing with Lehmann (1920), identifies Cueva of eastern Panama as Chocoan, not Chibchan.

and Cooke 1993). There is also circumstantial evidence of cultural continuities with modern Movere and Bocotá (Buglé) populations (Cooke, personal communication, 2001).

The Paézan/Barbacoan Frontier. The Paézan/Barbacoan languages represent a southern frontier of the Isthmo-Colombian Area, particularly in the Upper Magdalena Valley. The site of San Agustín is located within territory that was occupied by the Paéz at the time of the first Spanish contact. While Paéz has been identified as a Chibchan language by some researchers, Constenla (1991) asserts that it belongs within the Barbacoa family. This raises the question of whether the residents of San Agustín and Tierradentro are likely to have been Chibchan or Paézan/Barbacoan. Genetic studies of Chibchan and Paézan populations support the linguistic and cultural separation of these groups (Layrisse and Rodríguez-Larraide 1995).[22] General similarities between San Agustín iconography and that of the Nariño region of southern Colombia and Early Horizon cultures even farther south in the Andean region have long suggested a more southerly affinity.

The Amazonian Frontier. Definition of the eastern frontier of the Isthmo-Colombian region is made problematic by conflicting data. Although Joseph Greenberg (1987) classifies Yanomami languages as Chibchan, Constenla disagrees. Genetic data reveal close groupings of Yanomami with Barí in Venezuela, but also with Bocotá of central Panama (Layrisse and Rodríguez-Larraide 1995), which are also genetically similar to Boruca, of southern Costa Rica. The frontier between the Isthmo-Colombian Area and the Amazonian area is marked by traits associated with the former, such as absence of gender, location of numbers after the substantive, and the exclusiveness of the subject-object-verb order (Constenla 1991: 129). The nature of interactions between Amazonian groups and those to the northwest is intriguing and merits further research.

Endogenous Development

Linguistic Evidence for Chibchan Origins

One of the most important contributions of linguistic studies has been the identification of a hearth for Proto-Chibcha in southeastern Costa Rica and western Panama (Constenla 1991: 43). There is greater linguistic diversity among Chibchan languages within this region than in areas to the north (Honduras) or the south (northern Colombia). Languages in the Vótic and Isthmic subdivisions are found in southern Costa Rica and western Panama, while only those in the Magdalenic subdivision are found in Colombia. The beginning of the fragmentation of the Proto-Chibchan stock is estimated through glottochronology to have begun around 4000 B.C. with the separation of Paya from the main group. The fragmentation of the Vótic, Isthmic, and Magdalenic subdivisions had begun by 3000 B.C., with these divisions evident by 2000 B.C. (Constenla 1995: 44). Constenla suggests that this break can be tied to the beginnings of agriculture and the founding of permanent, sedentary villages, as

[22] These studies contain other puzzling results.

supported by the current archaeological data. However, it is probably wise to treat glottochronological interpretations with caution.

Genetic Microevolution in the Isthmo-Colombian Area

The study of human genetic diversity has revolutionized thinking about Chibchan populations, especially when combined with the above-mentioned linguistic studies. A wide variety of genetic markers, including mitochondrial DNA (mtDNA), confirms that Chibchan-speaking populations of Costa Rica and Panama demonstrate strong in situ reproductive continuity, with few external introductions from the Early Holocene to the present. The characteristics of the Boruca, Bribri, Cabécar, Guatuso (Maleku), Teribe, and Kuna—Chibcha-speaking groups in southern Costa Rica and Panama—distinguish them from other populations in the New World (Barrantes et al. 1990: 80; Barrantes 1993: 144–145). Cluster analysis of their genetic characteristics, linguistic characteristics, geographic distribution, and a combination of the three suggests close relationships among them, with affinities ordering lineally among geographically neighboring populations along the isthmus. Ramiro Barrantes and his colleagues conclude, "Our results do not support the old view of the Intermediate Area (and lower Central America) as a well-traveled 'frontier' between 'mother cultures' to the north and south. Any such explanation would require recent waves of migration from outside the region. While there have been cultural influences from both directions, waves of migration are not compatible with either the genetic and linguistic data or with the archaeological history of the region" (Barrantes et al. 1990: 63). Their finding thus permits one to conclude that the area in which these groups are distributed had its own, endogenous dynamic of interaction (Barrantes et al. 1990: 80).

The persistence of an ancient, genetically circumscribed Chibchan population in the southern isthmus is further supported by studies of "private" polymorphisms—genetic variants specific to particular populations—and mtDNA. Private patterns in these variants suggest that there were variants in the Central American Chibcha population that had been present in the region from very early times and that a particular polymorphism, the Diego antigen (DI*A), was widespread outside the region but absent within it. The virtual absence of DI*A, high frequencies of antigens TF*D-CHI and PEPA*F (6PGD*C), and polymorphic frequencies of five regionally restricted variants support "the idea that the peoples of this region have developed in situ over a very long period of time, without major intrusions from the outside" (Layrisse and Wilbert 1961). Barrantes and his colleagues note that "some of the continuity almost surely represents exchange among neighboring groups over the past 10,000 years, but the clustering within the Central American Chibcha is almost certainly due to phyletic fission" (Barrantes et al. 1990: 20). A study of twenty-two Chibchan and Paézan groups confirms a general, but not perfect, correspondence between linguistic and genetic patterns, highlighting genetic affiliations among fifteen linguistically distinct Chibchan populations (Layrisse and Rodríguez-Larraide 1995). Furthermore, "the analyses of the frequencies and distribution of polymorphic markers indicates an antiquity for the group of at least 7000 years. This supports the hypothesis that there was an in situ development in the

region, with a certain degree of genetic flow, or mixing between tribes, with preferences given to neighboring groups. This also favors an evolutionary model of a certain circumscribed space that did not experience great movements from north to south" (Barrantes 1998: 8).

Data from mtDNA confirm the genetic distinctiveness of Isthmian Chibchan populations (Torroni et al. 1994).[23] An analysis of the mtDNA of 110 Chibchan speakers shows their genetic characteristics to be significantly different from non-Chibchan groups. Of the fifteen haplotypes observed, all but four are unique to Chibchan populations. Furthermore, the range of mtDNA variation within the Chibchan group suggests a long and relatively independent process of genetic divergence, further supporting models for long-term autochthonous evolution within southern Central America. Additional mtDNA studies of Chibchan groups reveal a relatively low level of diversity, suggesting that they are descended from a specific, small founding population that was relatively isolated from genetically different populations (Batista et al. 1998: 15). Research on mtDNA from a remnant "Huetar" (Chibchan) population in Quitirrisí, Costa Rica, supports these assertions (Santos et al. 1994). Features of mtDNA and nuclear DNA indicate an initial reduction of genetic variation from the original founding population (Paleoindians of North American and ultimately Asian origin) and an increase in variation due to the subsequent appearance of new private variants, at least one of which is considered to be more recent than 8000 B.P. (Santos et al. 1994: 973). This analysis, together with the earlier recognition of serum protein variants, demonstrates "that the Huetar harbor polymorphisms of considerable antiquity, suggesting an early divergence from the regional founder gene pool for this population" (ibid.: 963). The researchers conclude that "the results argue for an in situ evolution of around 60% of the mtDNA variability" (ibid.: 975) supporting their view based on the presence of private genetic variants of a relatively isolated evolution of Chibchan populations.

A study of serum proteins from the Guaymí, Bribri, Cabécar, Teribe, Guatuso (Maleku), and Quitirrisí "Huetar" not only supports the clear separation of these Chibchan speakers from other Amerindian populations, but also confirms their variability as individually distinct populations (Bieber et al. 1996). The researchers conclude, "The two tribes of the Talamancan subgroup (Bribri and Cabécar) are closely related and are distant from the cluster of the Guatuso and Huetar tribes. These four tribes form a cluster with respect to their relations to the Teribe and the Guaymí, which are more or less loosely related to each other . . . . [This] means that most of the subpopulations show relative reproductive isolation and that only between neighbors are there some affinities" (ibid.: 950).[24] The implication of this data is that although there is substantial evidence for the long-term in situ evolution of Chibchan populations, there is also evidence for long-term maintenance of reproductive boundaries among them. This latter hints at the importance of distinct group identities within the Isthmo-Colombian Area.

[23] The Torroni study did not include South American Chibchan speakers.

[24] Ironically, Bieber and her colleagues use the label *Mesoamerican* to identify the Chibchan groups, although their genetic relationships to Mesoamerican or South American neighbors were not specifically examined.

A Holistic Approach to the Isthmo-Colombian Area

Although the data from linguistic and genetic research are impressive, they also have serious limitations. One group notes, "What emerges from our work in Central American Chibcha-speaking peoples is that the more we know about the groups in question—their demography, their geography, their history, their linguistic affinities, and their social dynamics—the better we can make sense of the genetic data we have. . . . Molecular characterization is useful, but it is no substitute for contextual understanding" (Thompson et al. 1992: 624). Confirmation of the patterns emerging from linguistic and genetic studies must come from a holistic approach to the area that synthesizes this data in the context of independent lines of evidence from ethnography, ethnohistory, and archaeology.

Archaeological models have long supported the notion of long-term population continuity in the central Isthmo-Colombian Area. Fonseca and Cooke note that the archaeological evidence argues against significant invasions or migrations in southern Central America on the basis of regional stability in space and time, shared cosmovision and technologies, the primary importance of kinship in social and political relationships, the self-sufficiency of many territories, extensive commercial networks for common and luxury items, the scarcity of sites with monumental architecture, and the conspicuous absence of state societies (Fonseca and Cooke 1993). Northern Colombia has similarly long sequences of occupation, especially in ceramic complexes following the first appearance of pottery around 6000 B.C. This continuity is not as clear in the Chibchan regions of northern Colombia. Evidence of population incursion and displacement in the Cauca and Magdalena Valleys and the origins of the Muisca in the Sabana de Bogotá are the subjects of current debate. Roberto Lleras Pérez suggests that evidence for differences in phases of occupation of the eastern Andes indicates waves of population movement from the isthmus into northern Colombia and eastern Venezuela (Lleras 1995; Sáenz and Lleras 1999).

Diffuse Unity in Chibchan Iconography

Fonseca (1998; 1994) has provided summaries of continuities within the Isthmo-Colombian Area from Paleoindian times to the sixteenth century in terms of lithic assemblages, ceramic assemblages, subsistence patterns, and settlement patterns. The focus here is on iconographic continuities that merit further discussion. The evidence for strong linguistic, genetic, and archaeological continuity raises the question of whether there was also a persistence of ideas and symbols representative of diffuse unity among Isthmo-Colombian populations. Given the antiquity of shared heritage and the absence of unifying political entities in the late periods, it seems more likely that any diffuse unity in the use of gold objects may be representative of the kinds of successful ideologies manifest in the great styles of Mesoamerica and the Central Andes. Richard Cooke and Warwick Bray were the first to define the "International Style" of gold and tumbaga artifacts, noting that similar forms were distributed from the Sierra Nevada de Santa Marta, the Sinú Valley and Gulf of Urabá north-

ward into Costa Rica (Cooke and Bray 1985). Bray later notes, "From the early centuries A.D. until about 900, the vast region from central Colombia to northern Costa Rica (a straight-line distance of about 800 miles) was one metallurgical province" (Bray 1992: 39). The distribution of the International Style conforms roughly to that of historically documented Chibchan- and Chocoan-speaking peoples in northern Colombia and the southern Central American isthmus, and hence the core of the Isthmo-Colombian Area. The regionalization of gold styles after A.D. 900 maintained a continuity of content, if not form, in the expression of commonly held ideas and leitmotifs about the cosmos, shamanism, and mythology. As Bray states, "the prediction of a pan-Chibchan belief-system seems to be confirmed" (1997).

A diffuse unity of traditions is demonstrated by iconographic themes found throughout the Isthmo-Colombian Area. These themes persisted for more than fifteen hundred years in some parts of the region. While it is difficult to identify specific meanings of these themes, and it is important to keep in mind that similarities in form may not signal similarities in meaning, their presence in goldwork and other media suggests a greater ideological coherence throughout the region than has been heretofore suggested. This cannot be attributed to political unity, and explanations linked to trade networks fail to explain why certain iconographic elements persisted while others did not. This is especially true for those themes whose appearance, at least in the isthmus, precedes the use of gold metallurgy.

Cooke and Bray (1985) suggest that the objects they place within the International Group were widely distributed in part because they were not tied to a particular ideology. They state, "The iconography, stressing simple realistic animal and human figures, may have been widely acceptable because of its lack of specific imagery or mythology" (Cooke and Bray 1985: 42). Bray further suggests that "the International Group was ideologically nonaligned and therefore more widely acceptable" (Bray 1992). Although objects of the International Group may have been politically nonaligned, they may have been widely accepted precisely because they *were* linked to a general cosmological repertoire, malleable to local situations. Bray suggests that the basic elements of a cosmology persisted across the Isthmo-Colombian Area from perhaps the first centuries A.D. until the time of the conquest (and in some places for several centuries afterward).

In addition to the elements of the International Style defined by Cooke and Bray, several other themes appear in the goldwork of the Isthmo-Colombian Area, including in the Conte and Veraguas–Gran Chiriquí groups as well as in the Sinú, Tairona, and Muisca styles. Although expression of these themes varies widely, their reproduction represents a diffuse unity in elements of cosmology and worldview, the roots of which may ultimately derive from a common linguistic and genetic heritage whose manifestations were reinforced by ongoing historical interactions in similar environmental settings. These themes, and the medium of gold, played a critical role in structuring power by emphasizing or implying continuities in ideology between actors in the present and those in the past. They facilitated the communication of heritage, even among individuals from different cultures within the Isthmo-Colombian world (Helms 1992).

Meditative Shaman

One of the most prominent of these themes features a figure in either a meditative state or undertaking personal acts associated with the practice of shamanism (Fig. 2). The individual's hands are often holding rattles, gourds, or double-scroll paraphernalia. He is usually depicted unclothed, adorned with a necklace, leg ligatures, and simple headgear (often in the form of a conical cap). The individual is shown either standing or seated, facing forward with a tranquil gaze characterized by narrowed eyes—characteristically represented by horizontal lids—and similarly portrayed pursed lips. Among the distinctive conventions used for this form are broad, angular shoulders and bent or curved elbows. The clearest and best-known representations of this theme are on finely crafted gold *poporos*, or lime containers, from the treasure of the Quimbayas, removed from two graves at La Soledad, Filandia, in the Middle Cauca Valley of Colombia in 1891 (Fig. 2b) (Bray 1978: nos. 358, 360). They are shown holding gourds with lime dippers or paraphernalia with double or quadruple spirals (Bray 1978: nos. 379, 380). The dating of these containers is problematic, but present estimates place them between A.D. 400 and 1000 (Bray 1978: 51).

This theme also appears in the stone statues from Barriles, in Chiriquí, Panama (Figs. 2a, c) (Stirling 1950; Vidal 1971). The broad, angular shoulders, front-facing pose, and sparse attire (a necklace and a conical cap), as well as the distinctive representation of the figure's face relate these to the roughly contemporaneous Quimbaya figures. These figures have been interpreted as centralized leaders in a "man-over-slave" motif (Haberland 1984), but could also represent respected elders being transported in themes related to dances or mythological events (Hoopes 1996). It is important to note that the majority of the Barriles figures are single, standing individuals. Several wear small human figures around their necks (Figs. 2a, c, f). Matthew Stirling (1950) suggests that these might be gold figures, but gold has yet to be documented in associated contexts in western Panama. Their size and lack of stylized representation make them distinct from Veraguas or Diquís figures that might date to this period. If they represent gold ornaments, the shapes and sizes of the figures worn by the Barriles statues are most similar to the Quimbaya objects with which they share stylistic elements. The fashion in which the Barriles statues wear these human figures is especially reminiscent of the way that a Quimbaya figure wears a *poporo* (Fig. 2b) (Bray 1978: no. 358).[25] The dating of the Barriles statuary is problematic, but most likely falls between A.D. 200–600 (Hoopes 1996). Although the chronology of the Barriles statues and the Quimbaya figures remains problematic, a parsimonious interpretation would have them contemporaneous at around A.D. 400–600. This is also contemporaneous with the Cerro Juan Díaz burials, which contain materials related to this theme (Sánchez n.d.). The Meditative Shaman is also represented in stone sculpture reportedly from Azúl de Turrialba, Costa Rica (Fig. 2e) (Benson 1981: no. 194).

[25] Alternatively, these small figures may be made of jade or greenstone, in a form that may predate the Quimbaya figures and is not associated with coca use. A jade figure of appropriate form and size is reported from Hakiuv, Talamanca (Benson 1981: 143, pl. 75).

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Fig. 2 *opposite* The Meditative Shaman theme: (a) human effigy statuary (note neck ornament on upper figure), Barriles, Chiriquí, Panama (Cavatrunci and Terenzi 1992: no. 341); (b) seated man, Quimbaya style, Filandia, Quindio (Treasure of the Quimbayas), Colombia (Bray 1978: no. 358); (c) human stone sculpture (note human effigy neck ornaments), Barriles, Chiriquí, Panama (Vidal 1971); (d) (Bray 1978: no. 380); (e) human stone sculpture, central Costa Rica (Benson 1981: 62); (f) decorated monumental metate (note neck ornaments), Barriles, Chiriquí Panama (Linares, Sheets, and Rosenthal 1975); (g) Kogi *mama*, the high priest of Mamaróngo, Sierra Nevada de Santa Marta, Colombia (Reichel-Dolmatoff 1990: pl. XII); (h) Ika mama (note conical sisal hat), Sierra Nevada de Santa Marta, Colombia (Reichel-Dolmatoff 1991a: 103).

Note that the use of a small, conical cap to designate occupation, rank, or status is widespread throughout the Isthmo-Colombian Area. It is found on the Quimbaya human figures in burials at Sitio Conte (Lothrop 1937: figs. 113, 114, and 148f), on ceramic figures from the Diquís Delta (Lothrop 1963: fig. 50b), and on stone statuary from Barriles (Stirling 1950; Vidal 1971) and Las Mercedes (Mason 1945: pl. 45D). The woven, conical cap worn by Ika holy men and Kogi *mama* (Reichel-Dolmatoff 1990: pl. XIIa; Reichel-Dolmatoff 1991a: 103, 105, 110) probably represents a survival of this ancient tradition (Fig. 2g–h). The cap itself has metaphorical links to the shapes of initiation huts and the thatched roofs of Kogi temples and houses (Fig. 3) (Reichel-Dolmatoff 1990: pls. VII, XIV, XXXII; Reichel-Dolmatoff 1991a: 101, 108).

Spiral Ornaments

Among the objects associated with the Meditative Shaman theme are double-spiral wands, usually found on staffs and nose ornaments (Fig. 4) (Bray 1978: nos. 312–318). The simplest representation of the spiral appears in some of the earliest goldwork from the isthmus, as represented by nose ornaments from Cerro Juan Díaz (Sánchez n.d.). Cooke and Bray (1985) place the double-spiral nose ornament in the Initial Group (A.D. 1–500) (Bray 1992: 34). One was recovered from a burial near La Fortuna, Costa Rica, where it was found with tumbaga artifacts in Quimbaya and Tairona styles (Baudez and Coe 1966; Stone and Balser 1965). Another was found in a tomb in the Tonosí region of Panama (González 1971). Spiral ornaments are also known from the Tairona, Sinú, and Gulf of Urabá regions. Spiral elements remain a ubiquitous element in the goldwork of the Isthmo-Colombian Area as parts of headgear and ceremonial paraphernalia.

Figures presented frontally holding staffs with double spirals appear in goldwork of the Diquís, Quimbaya, and the Tairona. A Tairona pendant suggests that the staffs are related to the overhead spirals that also appear on these figures, especially the pair rising directly from the figure's head (Fig. 4c) (Jones 1985: no. 44). The meanings of these staffs are unclear, but Kogi mama use objects in the form of twisted loops and rods (*pipíska*) to provide instructions to novices about such celestial events as solstices, equinoxes, and lunar phases (Fig. 4d).[26] These recall double-spiral elements of tumbaga ornaments (Reichel-Dolmatoff 1990: pls. XXXIII, XXXVIII).

[26] "It is essentially a model of solstices and equinoxes, the two hoops representing the extreme solar

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Fig. 3 (a) Bribri *palenque* residence of the late 19th century, Talamanca, Costa Rica (Hartman 1991: 28). (b) The main temple of the Kogi settlement at Takina, Sierra Nevada de Santa Marta, Colombia (Reichel-Dolmatoff 1990: pl. VII).

Double-Headed Saurian

The theme of a double-headed reptile (Fig. 5) has a broad distribution across time and space. While not confined to the Isthmo-Colombian Area, it is perhaps the theme with the longest chronological duration and the widest geographical distribution. This figure is most often represented not as a double-headed serpent, but as a bicephalic crocodile or caiman. It can be depicted alone, but it has its greatest significance when it is used to frame or accentuate another figure. The double-headed saurian can appear either above, below, or in both locations relative to a central figure. The motif is found on ceramics, volcanic stone sculpture, jade, and goldwork.

The most recognizable elements of the double-headed saurian iconography are the nose and mouth with teeth. In its most stylized form, only these are included, to the exclusion of any references to body, scutes (the jagged skin of the crocodile), or even eyes. The nose is invariably represented as a curl as a reference to the portion of the animal's body that is visible while it lurks beneath the surface of still water. These images are clearly derived from full-figure representations, one of the best examples of which is found on a flying-panel metate, reportedly from San Rafael de Coronado, in the central highlands of Costa Rica (Fig. 5a) (Benson 1981: no. 147; Graham 1992: fig. 4), dated to ca. 400–700 A.D.

The double-headed saurian is also featured prominently in a painted design on a seated Galo Polychrome figure from Bagaces, Guanacaste, Costa Rica (Fig. 5h), probably dating to A.D. 500 and shown wearing what may be jade ear flares, a jade axe pendant suspended from his neck, and gold disks with circular repoussé designs on his chest, arms, and legs.[27] The use of this theme lasts well past the Spanish conquest. A wood carving in the form of a double-headed saurian taken from a seventeenth-century Kogi *adoratorio* in the Sierra Nevada de Santa Marta is preserved at the Museo Missionario-Etnologico of the Vatican (Fig. 5b) (Reichel-Dolmatoff 1990: pls. XLIII, XLVa; Uribe T. 1996: 30).

In some cases, the double-headed saurian is an isolated motif, as on a pair of tweezers from Costa Rica (Fig. 5d) (Karpinsky de Murillo 1997: no. 274) and a bell from Sitio Conte (Hearne and Sharer 1992: pl. 43). It is also common as an element of headdresses (Karpinsky de Murillo 1997: nos. 252, 253, 268, 269), including an example on a Darién-style pendant (Bray 1992: fig. 3.5). Other times, it appears as an appendage or accent to a larger theme, emerging from heads or thighs of human figures (Jones 1985: no. 102), from the mouth of a frog (Deletaille and Deletaille 1992: fig. 254), or from its legs (Karpinsky de Murillo 1997: no. 238). The serpent feet of a jade figure from Hakiuv, Talamanca, also echo this theme

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positions. The object is used as a mnemonic device, and as a seasonal and monthly sky calendar on which all ritual dates can be 'read' and foretold. The artifact is also used during the process of twisting the yarn for the braided cords that are sewn on men's garments, and which symbolize umbilic cords and union with the Mother. The braiding of these cords signifies alliance, unity, balance" (Reichel-Dolmatoff 1990).

[27] Interestingly, the objects that he is wearing are duplicated in deposits at the site of Finca Linares, which contained greenstone ear flares, an axe pendant, and a gold disk as well as a tumbaga human figurine with features in common with Quimbaya figurines and flying panel metates (Herrera 1998).

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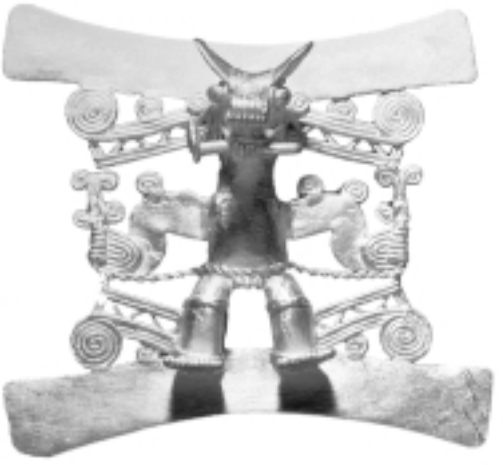

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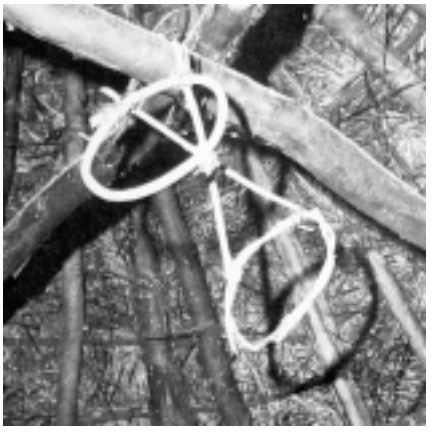

e

Fig. 4 *opposite* The double-spiral theme: (a) human-effigy lime flask, Quimbaya, Colombia (Bray 1978: no. 379); (b) transformed human holding spiral ornaments on tumbaga pendant, Palmar Sur, Diquís, Costa Rica (Fernández and Faith 1991: pl. 11); (c) masked-figure pendant, Tairona culture, Colombia (Jones 1985: no. 44); (d) double-spiral nose ornament, Tairona culture, Colombia (Bray 1978: no. 318); (e) *pipíska*, "sky calendar made of hoops and rods" in the rafters of a Kogi house, Sierra Nevada de Santa Marta, Colombia (Reichel-Dolmatoff 1990: pl. XXXVIII);

(Benson 1981: pl. 75, no. 177). An association of the double-headed saurian with transformation and flight is found in a tumbaga bat pendant from Sitio Conte, Panama, with wings represented by stylized saurian heads (Fig. 5g) (Hearne and Sharer 1992: pl. 18), a theme that also appears on a jade pendant from Guanacaste, Costa Rica (Benson 1981: pl. 86, no. 37).

A variant of the double-headed reptilian is a belt that terminates in two snake heads. One of the clearest examples of this form appears on an embossed plaque from Sitio Conte (Fig. 5i) (Hearne and Sharer 1992: pl. 1) on a figure who also has prominent leg ligatures (Graham, in this volume).

Beak Birds

Birds with long, prominent beaks are ubiquitous in the goldwork of the Isthmo-Colombian Area (Fig. 6). The nature of the representations does not permit specific identification of species, but long, curving beaks are suggestive of toucans, vultures, or possibly hummingbirds. "Beak bird" iconography first appears in Costa Rica as a theme in Pavas and El Bosque phase pottery (Benson 1981: pls. 25, 26) (Calvo et al. 1995: no. 137; Karpinsky de Murillo 1997: no. 164) and axe god pendants (Benson 1981: pl. 67, 80–83) during the first centuries B.C.[28] It is a distinctive element of Costa Rican flying-panel metates, where they are sometimes shown pecking on human heads (Benson 1981: pl. 51; Graham 1992: fig. 9). Present in the Initial Group, long-beaked birds are one of the earliest themes in Chibchan goldwork. They continue as common representations on Veraguas–Gran Chiriquí goldwork (Fig. 6h–i) (Lothrop 1950) and in Sinú staff heads (Fig. 6d) (Falchetti 1995: figs. 1–14). Birds are an element of Gerardo Reichel-Dolmatoff's Icon A (Reichel-Dolmatoff 1988), which is specifically associated with shamanistic practices. Multiple beaked birds often accompany human figures on Tairona tumbaga pendants (Fig. 6e) (Bray 1978: no. 263; Jones 1985: no. 44). An individual who has dual head eminences and a splayed-tail bird pendant is found on a repoussé Tairona pectoral, reportedly from the bank of the Río Piedras, Santa Marta, Magdalena, Colombia (Bray 1978: no. 307) (note that this figure is squatting above a double-headed serpent motif). Multiple beak birds also appear in Muisca and Tairona pendants (Bray 1978: no. 309), including the Mazaruni Dragon found in Guyana (Fig. 6f) (Whitehead 1990, 1996). Beak birds survive in goldwork as the oft-mentioned *águilas* of the conquest period

[28] Note that this is contemporaneous with the prominence of the Maya Principal Bird Deity iconography, to which it may be related, in areas of eastern and southern Guatemala (Parsons 1986).

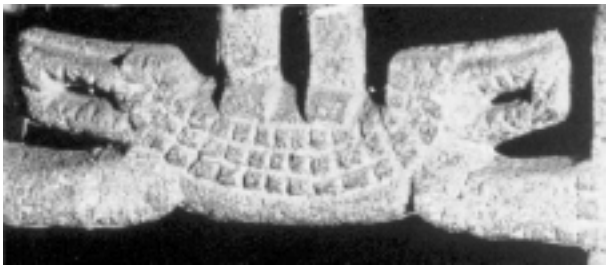

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Fig. 5 *opposite* The double-headed saurian theme: (a) flying-panel metate with double-headed crocodile motive from San Rafael de Coronado, Costa Rica (Cavatrunci and Terenzi 1992: 247); (b) double-headed saurian, wooden sculpture, 17th century, Kogi culture, Colombia (Reichel-Dolmatoff 1990: pl. XLVa); (c) double-headed crocodile of jade, northwestern Costa Rica (Calvo, Bonilla, and Sánchez 1992: no. 55); (d) gold tweezers with double-headed saurian motif, Diquís, Costa Rica (Karpinsky de Murillo 1997: no. 274); (e) bat/crocodile pendant of greenstone from Costa Rica (Calvo, Bonilla, and Sánchez 1992: no. 76); (f) masked-figure pendant, Diquís, Costa Rica (Jones 1985: no. 10); (g) bat/crocodile pendant, Sitio Conte, Panama (Hearne and Sharer 1992: pl. 19); (h) human-effigy vessel with double-headed saurian motifs, Galo Polychrome, northwestern Costa Rica (Benson 1981: cover); (i) gold disk from Sitio Conte, Panama (note double-headed belt) (Hearne and Sharer 1992: pl. 1).

(Ibarra, in this volume), and many of them may represent harpy eagles although their disproportionate beaks retain the appearance of other species.

Crocodile Man

As Bray notes, the Crocodile God is one of the oldest and most widely recognized of themes in Chibcha art and one of the most ubiquitous characters in the artwork of Sitio Conte. It was present before A.D. 500, represented in the earliest graves at the site (Bray 1992: 43). According to Bray, "The survival of this Crocodile God as the principal icon for more than a thousand years (in Old World terms, from the Late Roman Empire to the voyages of Columbus) demonstrates that the belief-system of the native Panamanians was almost as old as the Christian religion that came to replace it" (Bray 1992: 46). In Costa Rica, anthropomorphic figures with crocodile heads appear in flying-panel metates and carved jade (some with conical caps) (Benson 1981: no. 158) and continue to be a prominent theme in goldwork from Costa Rica, Panama, and Colombia.

Several artistic conventions are commonly found in representations of the Crocodile Man (Fig. 7). One of these is accentuated shoulders, either squared or peaked. As noted above, such shoulders are also found in the Meditative Shaman theme. Another is the depiction of bent elbows in an unnaturalistic U shape. One of the clearest examples of this latter convention appears on a flying-panel metate reported to come from San Rafael de Coronado, Costa Rica (Fig. 7a) (Graham 1992: fig. 4). Another comes from a metate reportedly from La Union de Guápiles, in the Caribbean lowlands (Fig. 6e) (Graham 1992: fig. 8). Each has an anthropomorphic figure with a crocodile head. The former stands on a double-headed crocodile while the latter stands on a jaguar. The distinctive combination of squared shoulders and curved elbows on a frontal figure appears on goldwork of the Veraguas–Gran Chiriquí style (Jones 1985: no. 106). (This figure also has stylized antlers reminiscent of Coclé artwork.) One figure from the Chiriquí region has a double-saurian headdress (Jones 1985: no. 6); another displays deer antlers (Jones 1985: no. 3). Hands are often represented in the same manner as on the metates, with semicircular palms and stylized, parallel fingers executed in false filigree. The Costa Rican flying-panel metates are dated to between the first and seventh

a

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h

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Fig. 6 *opposite* The beaked bird theme: (a) pot stand with beak birds and frogs, Atlantic Watershed, Costa Rica (Calvo Mora, Bonilla, and Sánchez 1995: no. 137); (b) jade bird pendant, Costa Rica (Calvo Mora, Bonilla, and Sánchez 1995: no. 94); (c) flying-panel metate with beak birds, central Costa Rica (Deletaille and Deletaille 1992: fig. 247); (d) bird-effigy staff head, Sinú style, Colombia (Bray 1978: no. 236); (e) triple-bird pendant, Muisca style, Colombia (1992: 63, M4); (f) Mazaruni pectoral, Muisca style, Venezuela (Whitehead 1990); (g) bird pendant, Tairona, Minca, Santa Marta, Colombia (Bray 1978: no. 299); (h) bird pendant, Diquís, Costa Rica (Calvo Mora, Bonilla, and Sánchez 1995: no. 102); (i) bird pendant, Veraguas, Panama (Lothrop 1950: fig. 72b).

centuries, indicating that this stylistic convention, when it appears in goldwork dating from the tenth through the sixteenth centuries, is one that may have endured for almost a millennium. The particular hand shape of the figures on these objects, however, raises some chronological questions. While the U-shaped hand with long, narrow fingers makes sense in false filigree goldwork—note that this convention is also utilized in Muisca *tunjo* figures (Jones 1985: no. 42), which also have square shoulders, U-shaped elbows, and faces that recall those of the Meditative Shaman—its representation in stone is less intuitive. This raises the possibility that the designs on flying-panel metates are derived from goldwork, rather than the reverse, and that at least these elaborate examples may date much later than previously thought. (The circular objects in the hands of these figures may be repoussé gold disks.)

The Crocodile Man is frequently associated with the double-headed saurian motif, as on the metate from San Rafael de Coronado (Fig. 7a) and an example of goldwork in the Diquís–Gran Chiriquí style featuring a Crocodile Man framed with stylized double-headed reptiles above and below him (Fig. 7b) (Benson 1981: no. 273).

Bat Man

Bat Men have been identified by Anne Legast (1993) in Tairona goldwork on the basis of a triangular, leaf-nose element and spread wings. Other iconographic conventions associated with bat figures include crescent-shaped wings, such as those on a conical ceramic stool from the Chiriquí region, decorated with a frontal image of a bat with stylized wings in the style of Veraguas-Diquís goldwork (MacCurdy 1911: pl. XLVId). Representations of bats in gold from Palmar Sur, Costa Rica, are anatomically incorrect in their placement of claws but include the crescent-wing convention in more realistic representations (Benson 1981: no. 263).

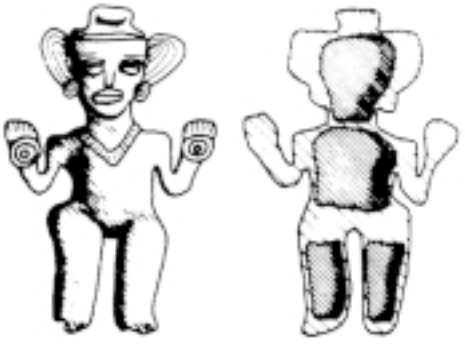
The Bat Man is a prominent figure in Tairona goldwork, where this character is shown holding the double-scroll (*pipíska*?) paraphernalia (Fig. 4c). Humans transformed into bats have been identified as representative of shamanistic flight, in which the essence of the bat becomes a guiding force in shamanistic power. Bats and birds appear to be conceptually linked in some Chibchan thought. For example, the Kogi classify them as nocturnal birds (Legast 1987: 49). These representations may be of a specific type of shaman. María Stella González de Pérez (1996: 49) has recently identified the term *supquaquyn* (glossed as *brujo* in colonial dictionaries) for "bat-priest" in Muisca terminology.

a

b

c

d



e

f

Fig. 7 *opposite* The Crocodile Man theme: (a) flying-panel metate from San Rafael de Coronado, central Costa Rica (note figure with upraised hands) (Cavatrunci and Terenzi 1992: 247); (b) "crocodile man" figure, Diquís, Costa Rica (Benson 1981: pl. 100); (c) human-effigy pendant, Veraguas or Dirquís (note angled shoulders and U-shaped elbows) (Jones 1985: no. 11); (d) human-effigy pendant, BCCR Cat. No. 300 (Cavatrunci and Terenzi 1992: 285); (e) human-effigy tumbaga pendant (note circles in palms), Finca Linares, Guanacaste, Costa Rica (Herrera 1998: fig. 9b); (f) flying-panel metate from La Union de Guápiles (detail) (Benson 1981: pl. 51).

Complex Combinations

Figures manifesting elements of multiple themes are among the most powerful images in goldwork from the Chibcha area. The standing figure from Puerto González Víquez, Costa Rica (Fig. 6b) (Benson 1981: no. 293), has the stance and head spirals that often appear on the Meditative Shaman, the curled nose, grimacing mouth, and U-shaped hands of the Crocodile Man, a leaf nose and crescent shapes on his thighs that recall the Bat Man, and a double-headed snake represented by heads on his chest connected by a twisted cord that runs through his mouth. The themes represented here are also manifest in Tairona Bat Man shaman figures.

Summary

That the themes discussed here—the Meditative Shaman, double-headed saurians, beak birds, spiral ornaments, the Crocodile Man, and the Bat Man—appear throughout the Isthmo-Colombian Area in iconographic contexts suggests a diffuse unity of belief systems characterized by the way elements of ecology were used within structures of thought in areas where populations shared genetic and linguistic ancestry. Their antiquity, stretching back to the first centuries B.C.—at least two thousand years before the arrival of Europeans—is suggestive of early, widespread belief systems that incorporated related, common mythologies. Their persistence in the context of Chibchan-speaking populations and relative absence beyond their boundaries suggests that these themes' recognition and use were a significant component of areal identity.

Isthmo-Colombian Variations

Although there are a number of elements indicative of diffuse unity in religious and iconographic traditions within the Isthmo-Colombian Area, agricultural systems reveal both continuities and divisions. There is a great deal of unity throughout the region with respect to the use of specific agricultural products. Root crops, for example, were a staple. Tree crops, such as *pejibaye* (*Bactris gasipaes*), are found everywhere but in the highlands of the Muisca populations. *Chichas* were consumed throughout the Isthmo-Colombian Area. In fact, the use of maize primarily for making chicha may be a characteristic that separates this area from Mesoamerica, where maize was used primarily for masa to make tortillas and tamales. Chichas were made from products as varied as *guanabana* (*Annona* sp.) and *pejibaye*. This suggests that

their use was one that is quite ancient, dating perhaps before the production of ceramics (Hoopes 1995).

There are some significant cultural differences in plant use within the area, especially between the Isthmian Chibchan groups to the west of the present-day Chocoan area and the Colombian Chibchan groups to the east. For example, ethnographic and ethnohistoric evidence highlights the importance of cacao for the western groups, who used it for a beverage prepared on special occasions. It is not known when cacao was first used, but it was probably consumed in finely crafted serving vessels, such as the tall Africa Tripods of the Atlantic Watershed region (Benson 1981: pl. 34). It was still considered a high-status ritual beverage by Talamancan peoples at the time of Doris Stone's ethnographic fieldwork (Stone 1961).

Coca, on the other hand, was a fundamental element in the ritual life of the Colombian Chibchan-speaking populations. One does not need to delve far into Kogi ethnography before the significance of coca is abundantly evident (Reichel-Dolmatoff 1985; 1988). The earliest indirect evidence for its usage is the presence of *poporos* (lime containers) and lime dipping sticks in the Calima and Quimbaya cultures of Colombia (Cardale de Schrimpff et al. 1992), probably in the first centuries B.C. While there are a few references to what may have been examples of coca use in western Panama and Costa Rica, evidence of coca cultivation is practically nonexistent, and it seems clear that coca never had the central role for Isthmian Chibchan populations that it did for those of northern Colombia.

Chiriquí represents the easternmost extension of domesticated cacao, while Darién represents the northern- and westernmost extension of coca cultivation. One explanation may be ecological. The dry regions of central Panama were unsuitable for the cultivation of either cacao or coca. The north coast of Colombia is also a poor region for the cultivation of cacao. It remains difficult, however, to reconcile the relative absence of coca use in Central America and the relative absence of cacao consumption in Colombia with the apparently abundant evidence of interregional exchange of goldwork—especially in the context of shamanism—and the continuity of relationships between Isthmian and South American Chibchan populations.

An alternative explanation is that the importance of coca and cacao in these respective regions postdates the formation of the core cosmologies shared by Chibchan-speaking peoples distributed roughly north and east of the Chibchan-Chocoan frontiers. As these products became integral to the lifeways of peoples of the isthmus and northern Colombia, they were incorporated into respective cosmologies as an overlay onto more ancient belief systems. In essence, the iconographic themes are quite ancient, but their associations with specific practices are more recent.

Conclusions

Bray was especially impressed by two aspects of what he terms an Isthmian Interaction Sphere, extending from Yucatan (specifically Chichén Itzá) to central Colombia: the "frontiers between discrete cultural provinces remain constant for very long periods," and there

was constant contact between cultures in such a way that "the overall pattern does not justify any simplistic division into donor and recipient cultures" (Bray 1984: 308). It is possible that another characteristic is the existence of a pan-Chibcha worldview whose origins may be traced to a historical, nuclear population of Chibchan speakers distributed between eastern Honduras and northern Colombia. The extent to which this was shared with Chocoan and Misumalpan speakers remains to be explored.

Common roots suggest that much of the variation in social organization found in sixteenth-century Chibchan populations evolved in the context of peoples who shared a common linguistic and genetic heritage in the distant past. The motifs that appear in the gold iconography of the last millennium of the Pre-Columbian era reflect not only complex networks of communication, but expressions of common ideas, structures of thought, and explanations of the universe developed by populations that shared a common ancestry. The evidence that these ideas antedate the use of gold, together with strong evidence for autochthonous change, suggest that ideological and social structures associated with gold use echo those of earlier communities. These patterns are ones that, unlike those of Mesoamerica and the Central Andes, retained the significance of shamanistic practices such as have become evident in Olmec and Chavín traditions but did not rely upon the ideology of a patrilineal succession of centralized rule.

There are a number of themes that resonate across both media and styles. Gold and tumbaga artifacts bear iconographic evidence of a continuity of elements whose origins antedate the widespread use of gold and tumbaga and may therefore be tied to a common cultural heritage. In gold use, the medium is less important than the message, but gold becomes the favored material with which to communicate ancient and widely held ideas about the relationships among humans, the cosmos, and the natural and supernatural realms. Gold communicates the power of knowledge as held by trained shamans and visionaries, who are likely to have designed and manufactured many of the gold pieces themselves.[29] This was one that linked kinship, mythology, and worldviews conditioned by language and history. Most important, gold translated the result of these different heritages—identity—into the currency of power.

The definition of an Isthmo-Colombian Area in terms of related human population has a certain resonance for the indigenous people themselves. Kinship is a dominant concern in Kogi worldview, as evidenced by the fact that greetings are phrased in kinship terms. Kogi worldview divides human beings clearly into *kággaba* (people) and non-Kogis. Within the kággaba, there are kinsmen (*gaha*, family) and nonkinsmen (*axautshi*, different), of whom they may only marry the latter. Other indigenous people are identified as axautshi kággaba. The Kogi are particularly preoccupied with race (*saná*) and have a fundamentally racial worldview in which their superiority is presumed. They believe that they were created before

[29] The cacique Ucaraci, from Coto (or Coctu), is said to have been a talented goldsmith (Fernández B. 1881–1907). Don Diego de Sojo, captain of the guard of the governor of Veragua, traveled through Veraguas province in Panama in 1587, and noted that a cacique of the town of Ucani worked the gold himself (MacCurdy 1911; Helms 1979).

all other peoples, and therefore view themselves as "older brothers" (*duwékue*), while everyone else is "younger siblings" (*nanikue*) (Gawthorne 1985). While traditional Kogi experience led to specific terms for their Chibchan neighbors, the Ika and Damana, kággaba might be the appropriate term for their larger Chibchan kinship group. Today, there are about 250,000 people who belong to ethnic groups of Chibchan ancestry. More than half of these are the Ngöbe/Guaymí of Costa Rica and Panama, who number about 150,000. The second largest group is the Kuna of Panama and Colombia, numbering about 72,000, followed by the Bribri and Ika, with about 6,000 people each. The remaining populations range from 50 to 3,000 people.

The operative concept of an Isthmo-Colombian Area has proven useful for recognizing the relationships between kinship, language, and worldview as expressed in symbolic material culture among peoples with a common historical heritage. The people of the region deserve an affirmative model of their past, rather than one based upon the absence of traits, as is implied by the Intermediate Area concept. Linguistics and genetics provide useful tools for defining the identities of specific populations. There is also a growing interest among indigenous peoples in tapping the contributions of academic scholarship to the reconstructions of the history of their ancestors. The Bolivian archaeologist C. Mamani Condori writes,

> A phrase which vividly expresses this is *qhiparu nayaru uñta sartañani*. Literally it means, "let us go backwards looking in front of our eyes," but translated meaningfully it is "let us go into the future looking into the past.". . . To look into the past, to know our history, to know how our people have lived and struggled throughout the centuries, is an indispensable condition in order to know how to orient future action. (Mamani Condori 1996)

Only in approaching the reality of the past experiences of the inhabitants of this part of the New World can one develop an effective vision that combines the past with the present as a contribution to the knowledge necessary for improving the quality of life of their societies.

Gold artifacts reveal elements of worldviews and structures of thought whose understanding is critical to the reconstruction of past and present identities. Just as gold communicated the ancient heritage of shamans in the past, it can help in reconstituting empowering identities in the present. The concepts of endogenous change and diffuse unity contribute to the active articulation of such an identity, rooted in commonalities of language, kinship, and cosmology that merit far more attention than they have heretofore received.

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Who Crafted, Exchanged, and Displayed Gold in Pre-Columbian Panama?

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Introduction

An oft-discussed problem is how to relate a specific category of material culture and technology (crafting gold ornaments) to a complex correlate of human behavior (power). Behavioral interpretations in archaeology are hugely dependent upon contextual precision, that is, being as sure as possible about time, space, and people, including their age and sex; their relationships with other individuals and groups; and their social categories (occupation, position, status, and rank). Being successful at this task not only presupposes good field archaeology, accurate recording, and careful illustration of artifacts, but also well-preserved human remains and sound bioanthropology.

Many more gold artifacts have been found in buried deposits in Panama by people with some kind of archaeological training than have been found in other modern nations in the Intermediate Area. At least 1,140 artifacts made out of auriferous metals have been recorded in controlled excavations by academically trained archaeologists or amateurs (Table 1).[1] Excavation and recording standards, however, have been uneven: some professionals have been as lax as some amateurs. The working sample of contextualized gold artifacts also has a strong geographical bias. All but two of the sixteen sites in Panama in Table 1 cluster in a tiny area—the coastal plains and foothills bordering Parita Bay and the Gulf of Montijo (Fig. 1). This creates interpretative quandaries, because there is more ethnohistoric information about the acquisition of auriferous ores and the use and distribution of metal artifacts from other areas of Panama, which are less well known archaeologically. Sitio Conte is likely the only site known to the majority of readers (Briggs 1989; Hearne and Sharer 1992; Lothrop 1937). It is the only site that has provided metal objects in sufficient quantity and with enough attention to spatial and temporal context to permit strong hypotheses about

[1] See pp. 140–141. This number is approximate because of variable recording systems and standards. It excludes beads, which are sometimes counted and at other times identified only as bracelets or necklaces.

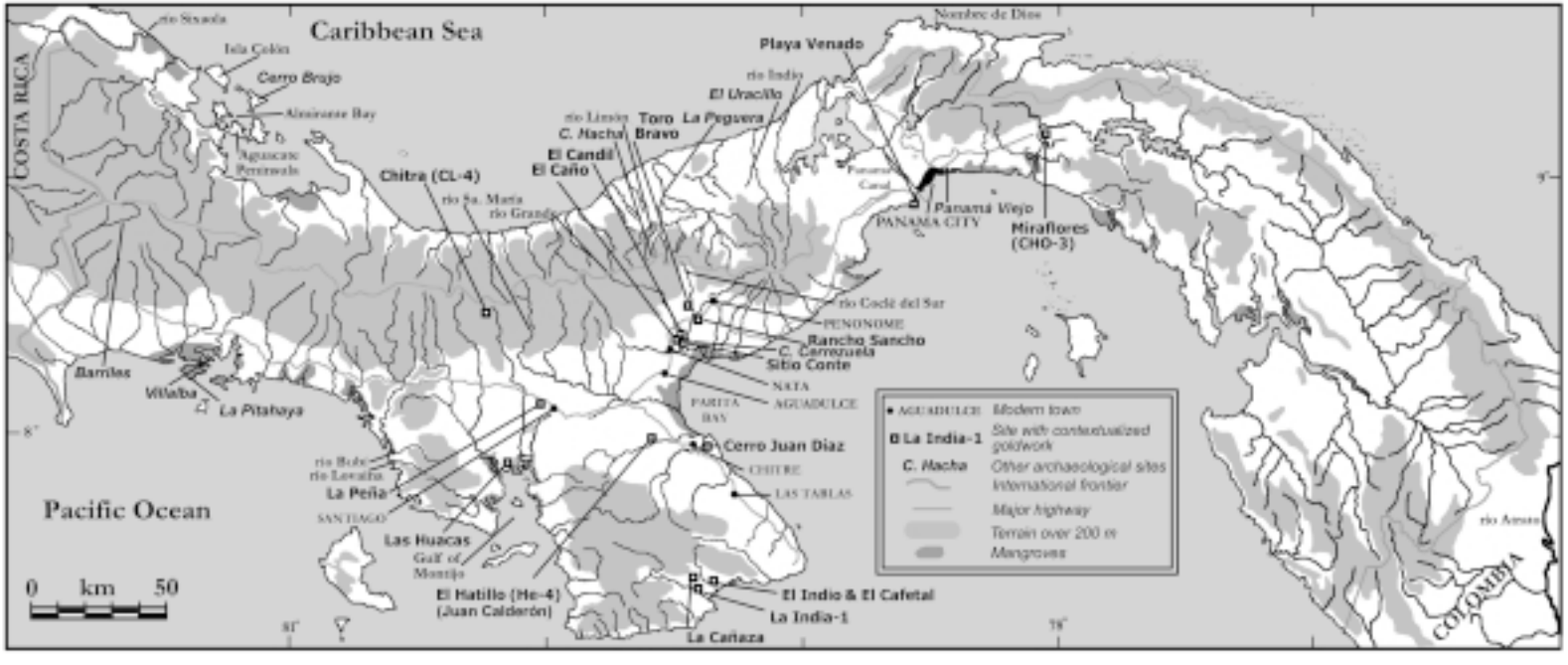

Fig. 1: Map of Panama, showing location of archaeological sites, modern towns and prominent geographical features

their numerical and qualitative relationship to human remains and to other categories of mortuary arts and, therefore, about their relevance to such a multifarious concept as power. Sitio Conte was excavated more than seven decades ago. All scholarly works that have discussed the role of metallurgy in pre-Spanish Panamanian society have built their interpretations around the 1070-plus gold artifacts found at this "paradigmatic example of a ranked or chiefdom society" (Briggs 1989: 63).

All the sites in Table 1 contained some human remains. In only two excavations did people with a specialized training in physical anthropology handle aging and sexing.[2] No attempt was made to estimate age and sex in some excavations and, at most sites, skeletons were not recovered for subsequent storage and re-analysis (Briggs 1989: 70). It is not clear who was responsible for aging and sexing the skeletons during the Harvard excavations at Sitio Conte between 1930 and 1933 (Briggs 1989: 72).

In view of these obstacles it is hardly surprising that ethnohistory and art history have exerted more influence on scholars' conceptualizations of the relationship between gold and human behavior in Panama than has the archaeological field record per se (for example, Sauer 1966; Helms 1979; Linares 1977). A notable exception is Peter Briggs's research, which took a matter-of-fact, but effectively novel approach to extracting information from published and unpublished field data (Briggs 1989; 1993).

We propose that *power* subsumes the following: influence, authority, social ascendancy, and physical control. In deference to the a priori assumption that metallurgy was a specialized craft and, hence, conferred a degree of power on the artisan (Helms 1979: 87, 1993: 69–70), the first topic will be manufacture: Who crafted gold artifacts in Panama? Knowledge in this area has advanced little since Samuel Lothrop (1937) discussed it, but the notion that Pre-Columbian Panama was not a major center for the production of "excellent" metal objects (Helms 1979; Sauer 1966) is often uncritically and incorrectly repeated as an established fact (for example, Gordon 1982); it has been causally linked, besides, to long-distance exchange, which specialists in social complexity consider to be a primary correlate of power in non-state societies (e.g., Earle 1991: 10; Helms 1979: 37).

This leads forthwith to the second question: Who acquired and exchanged gold? (in its mineral form and as crafted artifacts). "Gold" means combinations of gold and other minerals, such as copper, silver and platinum as natural ores, and intentional alloys.

The third question is: Who used gold ornaments and how were they displayed? Most archaeologists (including Richard Cooke [Cooke and Bray 1985: 36]) have at some time in their careers supported the idea that gold was the primary symbol of political and social ascendancy in Pre-Columbian Panama—the unquestioned apex of a hierarchy of artifact categories. Briggs (1989; 1993) has chided us for such intemperance while pointing out three important patterns in the excavation record; a few other items, such as whale teeth, were equally as valuable as gold. Some categories of gold artifacts, such as embossed plaques,

[2] John Corning participated in J. Alden Mason's 1940 excavations at Sitio Conte (Briggs 1989: 67–68, 72). Claudia Díaz analyzed 115 skeletons from Operation 4 at Cerro Juan Díaz in 1997–99 for her licentiate thesis (Díaz n.d.).

are restricted to especially rich or lavish mortuary features, suggesting their correlation with authority or social ascendancy of some kind. The mere fact that someone wore a gold ornament does not necessarily mean that he or she exercised power. Also popular in Intermediate Area archaeology is attributing gold ornaments to intellectual power, for example, to shamanism and healing (Saunders, in this volume; Reichel-Dolmatoff 1990).

The idea that Intermediate Area goldsmithing and gold artifacts were imbued with esoteric qualities—"knowledge of the meaning of sacred symbols, insights into the meaning of life, and the understanding of mythical origins" (Helms 1979: 119)—has also attracted the attention of many scholars. Archaeology and ethnohistory suggest, however, that in Pre-Columbian Panama gold was worn primarily for display, which can be construed as the opposite of esoteric behavior. Attributing meanings to prehistoric objects and images is predicated upon the accuracy of archaeological context and the appropriateness of analogies, making this a very difficult topic. Two groups of gold artifacts (cast figurine pendants and embossed plaques with anthropomorphic images) allude to the advertisement of power on a dual plane (supernatural and real). In our discussion of their meaning, we consider ornaments for which there are no field records.

Who crafted gold artifacts in Panama?

> All over Castilla del Oro . . . there are many rich gold mines and that no one could ask me to find a gold mine but that I could locate one within ten leagues, and it certainly has been worthwhile to search for them. Gold is found everywhere, but naturally in some places it is more plentiful than in others.[3] (Fernández de Oviedo 1959: 107)

> This land is ballasted with gold, which can be found everywhere where one digs a stade deep . . . and in all the rivers and streams one finds good mines and gold sources. (López de Velasco 1971: 171–178)

> [The Spanish] knew that gold was collected in many mountain streams and was carried to a few places to be manufactured, and that these centers were not located where the placer gold was found. They knew . . . that such a manufactory might point to the desired sources of gold. The absence of any such local industry . . . suggests that none was found. (Sauer 1966: 276)

Warwick Bray has assigned the oldest gold ornaments found in Panama to his Initial Group, a stylistic and chronological construct (Bray 1992; Cooke and Bray 1985). They occur in the same mortuary features as clay vessels painted in the Tonosí and Cubitá styles, sequential and thematically interrelated stages in the Gran Coclé polychrome pottery

[3] *Castilla del Oro:* the territory between the middle of the Gulf of Urabá and Veragua, which, at the time of Gonzalo Fernández de Oviedo's writings, was reckoned to comprise the Caribbean littoral from the Belén River to Cariay (Puerto Limón, Costa Rica).

sequence, which flowered between about cal A.D. 200 and 750 (Sánchez n.d.; 2000; Sánchez and Cooke 1998). Richard Cooke, Luís Sánchez, and Koichi Udagawa (2000) argue that the Tonosí pottery found with Initial Group gold ornaments in graves at El Cafetal and in the earliest cemeteries at El Indio (I) and Las Huacas (I) represented the transition of this style into Cubitá and that, therefore, one could not assume that the introduction of gold into Gran Coclé occurred before cal A.D. 400–500. New data from Cerro Juan Díaz suggest, however, that metal ornaments arrived somewhat earlier on the isthmus. In feature 16, a sub-cylindrical mortuary pit in which at least eighteen individuals were buried secondarily in packages, excavators found one complete metal ring with a high copper content and several fragments of gold ornaments (Cooke and Sánchez 1998: figs. 5c, g and 6c–f; Cooke et al. 1998: figs. 8.l, 10; Cooke et al. 2000: fig. 8.8 e, f, r). The copper ring was found inside a package at the bottom of the feature, which contained an adult and a pre-adult. Dentin collagen from the adult was dated to 1780 $\pm$ 40 BP (cal A.D. 130–370; Beta-147880),[4] an estimate that overlaps with a result of 1730 $\pm$ 80 BP (cal A.D. 120–530; I-18679) obtained from charcoal flecks scattered through this feature's fill.[5]

According to Cooke and Bray (1985: 35) the small Initial Group sample from Gran Coclé exhibits considerable technical variety and dexterity: beads, plaques, rings, pendants, and figurine pendants made by alloying copper and gold, hammering, annealing, sheathing, depletion gilding, open-back casting, and lost-wax casting over a clay core. Ilean Isaza's (n.d.) technological analysis of four metal fragments from feature 16 at Cerro Juan Díaz (carried out under Heather Lechtman's supervision) has added some interesting details. The microstructure of what seems to be the fragment of a tail of a spread-eagled bird pendant shows that it is composed of two different copper-rich layers, which were welded together (Cooke and Sánchez 1998: fig. 11d; Cooke et al. 2000: fig. 8.8f). Isaza hypothesizes that the second layer was attached to the original cast metal by pressure and re-heating in order to mend it, while Lechtman suggess that this was done in order to produce contrasting surface colors along the edges.[6]

In the light of Alain Ichon's suggestion (1980: 197, 321) that coastal Ecuador may have been the source of certain cultural traits on the Azuero Peninsula, including metallurgy, it is interesting that Isaza's scanning electron microscope analysis of the bird tail fragment just mentioned identified osmium, a heavy platinum-like element found in some native ores, particularly alluvial ores (Boyle 1979: 163). In the Americas, the intentional use of native platinum has been documented only in the La Tolita-Esmeraldas archaeological region on the Pacific coast of northern Ecuador and southern Colombia, where platinum was plated onto metal surfaces in order to bring out surface color (Scott and Bray 1994: 301).

[4] Calibrations of radiocarbon dates were calculated by Beta Analytic Inc.

[5] Feature 16 was probably used more than once. No intact clay vessels were found in it, and sherds in the fill are not typologically diagnostic. The fragmentary metal probably represents once-intact ornaments that were buried in an earlier feature (no. 26), which was disturbed by feature 16 (Cooke and Sánchez 1998:fig. 5h).

[6] Isaza determined that a small fragment of cast copper wire and a small bead with high gold content, also from feature 16 (Cooke and Sánchez 1998: figs. 11e, f; Cooke et al. 2000: fig. 8.8p, q), were forged and then reworked under heat.

Platinum, however, has been reported as a trace element in the Cerro Colorado and Petaquilla ore deposits in Panama (see p. 101), so its presence in a gold artifact is not a sine qua non of extra-Isthmian manufacture (USDI 1993: 949).[7]

These details support the hypothesis that the manufacture of gold ornaments was in the hands of skilled artisans when metallurgy was introduced into Lower Central America (Bray 1978: 26). Available archaeological data cannot determine whether local people traveled to Colombia or Ecuador to learn the trade (Helms 1979: 140) or if itinerant artisans brought it to Central America (see Bray 1996: 315 with regard to the Maya area). The fact that Initial Group metal ornaments from Panama and Costa Rica share several icons with the Tonosí- and Cubitá-style painted pottery with which they have been associated in mortuary features raises the issue of whether one technology's ideology influenced the other's (Cooke 1986; Sánchez and Cooke 1998; 2000; Bray 1992; Falchetti 1987; 1993; 1994; Snarskis 1985; Stone and Balser 1965; Uribe 1988). Much better control over the provenience and dating of gold ornaments is required to develop this topic. Nonetheless, improving knowledge of the La Mula painted pottery style from Gran Coclé that is dated to about cal 200 B.C.–A.D. 200 (Cooke et al. 2000: table 8.1) and has not yet been associated with metal, suggests that such motifs as crocodilians, amphibians, long-legged and long-beaked birds, and spirals appeared on pottery in this region before being incorporated in gold objects (Fig. 2; Desjardins n.d.; Sánchez and Cooke 1998).

Mineral Deposits in Panama

Before continuing this discussion about where gold ornaments were made and by whom, we shall pause to consider whether Panama possesses sufficient quantities and types of mineral resources to sustain local workshops for large numbers of costume and sumptuary items wrought in malleable auriferous metals. The following pages, maps, and tables will collate geological data on the distribution and nature of the mineral constituents of Pre-Columbian metal artifacts—gold, silver, copper, and platinum—with the few professional metallurgical analyses that have been applied to Panamanian Pre-Columbian gold artifacts. We will then discuss other researchers' ideas about crafting gold in Panama, paying special attention to the still influential notion that Panamanian goldsmiths were only capable of producing "simple" artifacts or gilding ornaments made elsewhere, while they imported the products of "skilled" crafting from manufacturing centers outside the isthmus (Helms 1979; Sauer 1966).

Gold. Since the Spanish conquest, gold has been mined from veins in quartz and andesite lodes (*vetas*) or obtained from *lavaderos* near placers: alluvial outwash deposits at the base of hills (known locally as *aluviones de cerro* or *hucicas*) or the "waste of weathering and erosion of mountains collected in stream channels" (Fig. 3; Sauer 1966: 197). Colonial docu-

[7] A. Hyatt Verrill, a journalist with a propensity for exaggeration, reported platinum in alluvial gravels in Darién rivers and near the city of Colón. He also commented that small emeralds had been collected in the Darién (1922: 194; 1935: 193, 264).

Fig. 2 Motifs painted in the early La Mula-style from Gran Coclé (cal 200 B.C.–A.D. 250) have parallels in Initial Group metalwork: (a) sherd showing stylized crocodile leg, Cerro Juan Díaz; (b) cast gold crocodile, Playa Venado, Dumbarton Oaks; (c) sherd depicting a feathered spiral, Cerro Juan Díaz; (d) stylized crocodilian (?) on a pot stand, unprovenienced, Museo de Antropología, Panama City; (e) sherds depicting the hind legs of an amphibian, Cerro Juan Díaz; (f) head of a serpentiform beast, from a necked vessel, unprovenienced, Museo de Antropología, Panama City; (g) long-legged bird from the shoulder of a necked vessel, unprovenienced, Museo de Antropología, Panama City; (h–i) abstract spread-eagled birds painted on necked vessels, (h) from Las Huacas, Veraguas, Museo de Antropología, Panama City; (j–k) stylized spread-eagled birds on sherds, Cerro Juan Díaz (drawing by R. Cooke based on photographs by R. Cooke and B. Desjardins).

ments and geological reports often specify if "mines" were tunnels excavated in search of veins in rock bodies or holes dug into outwash or fluvial deposits (Fig. 4b). The sources we have consulted suggest that the most important vein deposits of gold are those listed in Table 2 (see pp. 142–143). Some of these, such as Turlurí or Escobal, Cana[8] (Espíritu Santo), and Remance,[9]

[8] During its brief period of intense exploitation (1680–1724), the Cana mine was "the richest in Panama and one of the most productive on the (American) continent" (Castillero Calvo 1995: 229). Its abandonment was a catalyst for the Spanish withdrawal from Darién.

[9] Geologists told Cooke in October 2000 that the gold at Remance is found in mostly vertical, quartz veins, which would be visible from the surface if the area were cleared of vegetation. The principal vein is 2–2.5 km long. The gold is fine, but of good quality. In the 1920s, the British-owned Veraguan Mining Company processed it with cyanide and dug extensive tunnels. When the mine was closed during the Depression it had not been exhausted. A Peruvian company operated it from 1989 to 1997, extracting about 15–20 g/ton. They abandoned it because gold prices fell worldwide. The mine would be economical if prices rose to about $325 an ounce.

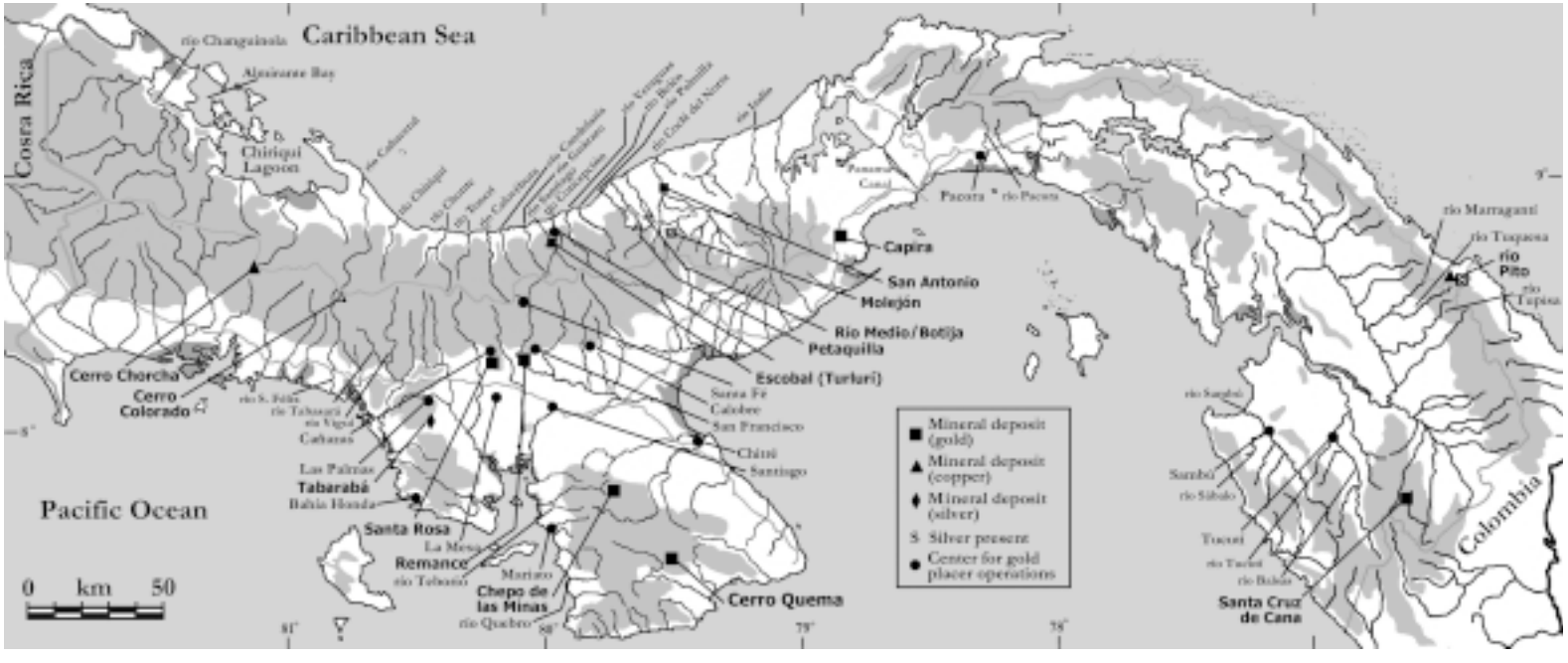

Fig. 3 The location of known gold, silver, and copper deposits in Panama and key centers for the processing of placers.

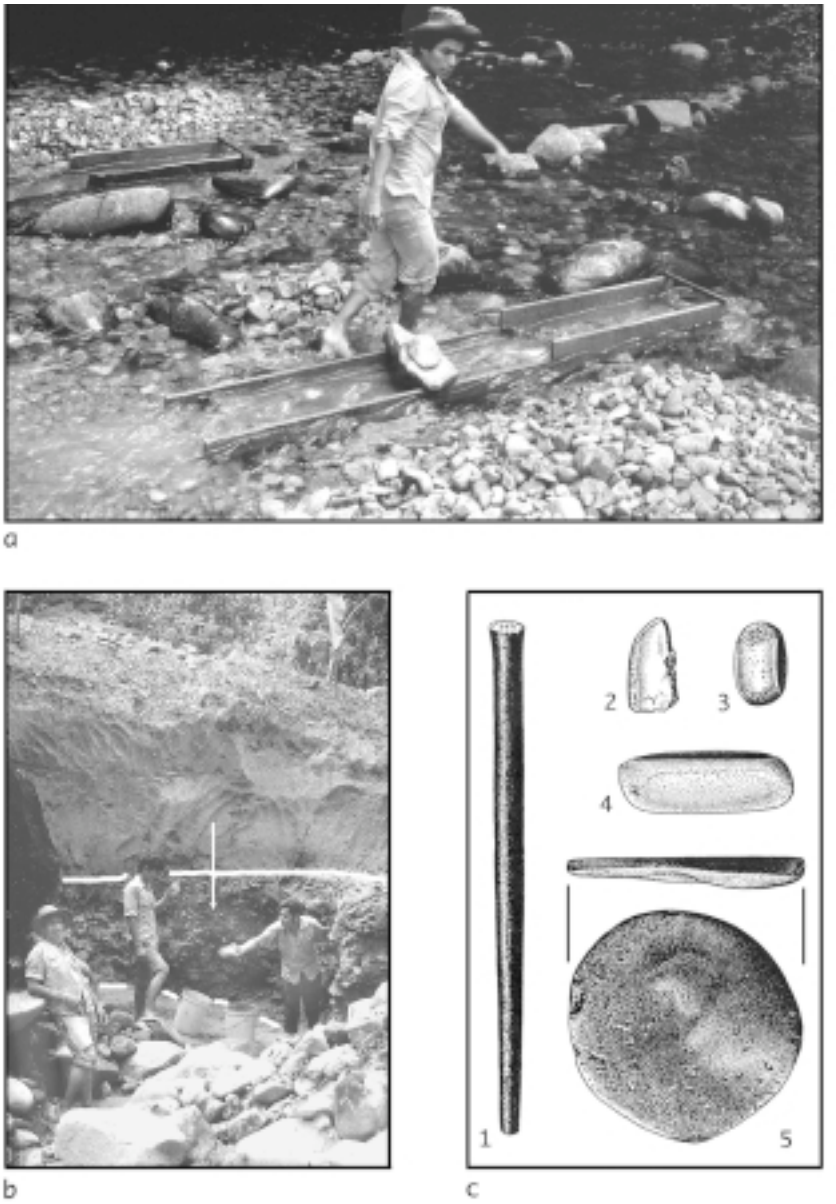

Fig. 4 (a,b): Placer mining operations at the Quebrada Barrera, Caribbean Veraguas, 1977: (a) A Ngöbé native American washes gravel looking for gold at a *lavadero* (photo by R. Cooke); (b) Extraction of fluvial gravel in a search for gold. The arrow points to the auriferous deposits, which are below the horizontal white line (photo by R. Cooke); (c) Raw materials for metalsmiths from Sitio Conte: 1. Copper bar found in Lothrop's grave 26; 2. Ingot, 89% gold, 11% copper, trace silver; 3–4. Ingots, 97.6% gold, 2.4% silver, apparently unprovenienced; 5. Ingot, composition not analyzed, Lothrop's trench II, general digging (based on Lothrop 1937: fig. 46).

were important mines in colonial times and were reopened in the nineteenth and twentieth centuries with considerable commercial success.

Gold-bearing fluvial gravels are widespread in Panama: United Nations survey reports and maps indicate that gold is present in river gravels virtually throughout the isthmus. Placer deposits that have been continually or intermittently exploited since colonial times are located on the Caribbean slopes between the Concepción and Coclé del Norte drainages, where the mining communities of Barrera, Nueva Lisboa, Real Minera de La Palma, and La Trinidad were located (Castillero Calvo 1967; 1995: 78, 142);[10] in the Pacific foothills of Veraguas around Bahía Honda, Cañazas, Calobre, La Mesa, Las Palmas, San Francisco de la Montaña (minerales de Aguacatal), Santiago, and Soná (Castillero Calvo 1995: 112, 123–124, 382, 436, 440; Restrepo 1979);[11] along the western shore of the Azuero Peninsula between the Tebario and Quebro rivers (Castillero Calvo 1967; 1995: 82; UN 1969); along affluents of the Sambú, Sábalo, and Tucutí rivers in Darién (Castillero Calvo 1995: 262, UN 1971); in the upper Tuyra drainage in Darién (particularly the Marragantí, Tuquesa, and Tupisa valleys [Carles 1962: fig. 319; USDI 1975: 1214; 1989: 991–992]);[12] the upper drainages of the Grande and Coclé del Sur rivers on the Pacific side of Coclé; and along rivers located between Panama City and the Bayano river, that is, Juan Díaz, Matasnillo, and Pacora (Esquivel n.d.; Restrepo 1979). During the sixteenth century missions were opened in the Changuinola valley (then known as La Estrella) in order to Hispanicize native peoples who interfered with placer gold extraction (Castillero Calvo 1995: 198).

Figure 3 identifies settlements that from time to time have acted as centers for placer mining operations during colonial and republican times. These deposits are easiest to exploit by artisanal methods in the faster-flowing sections of the rivers and streams, but even there production is complicated by frequent floods, which can quickly wipe out sluices (Morison and Obregón 1964: 204). The value of the effort expended on them (often in inaccessible now-forested areas) is strongly dependent upon world-wide gold prices.

Copper deposits. Lothrop (1937: 77) states that Panamanian natives could obtain "comparatively pure copper," and whether they secured naturally pure ores or refined copper they "had at their disposal a metal suitable for their requirements." R. H. Terry (1956: 86) observes that copper occurred as low-grade sulphide deposits in the Viguí, Tabasará, and Cobre rivers of Veraguas and at the head of the San Félix River in Chiriquí. It was the UN explorations of the 1960s and 1970s, however, that confirmed the ubiquity of copper and

[10] A precise location for Real Minera de La Palma has not been found. It was supposedly located along the Palmilla(s) River, which runs west of the Petaquilla (Fig. 3). For Nueva Lisboa and La Trinidad, see note 27.

[11] Vicente Restrepo (1979) quotes a report made by a Juan Antonio de la Mata, who refers to "minas abundantes de oro . . . se extienden considerablemente estos minerales pues llegan al río Lovaina donde los antiguos sacaron cuantiosas riquezas" (abundant gold mines . . . these mineral deposits are of considerable extent since they reach the Lovaina River where ancient people extracted many riches).

[12] In the 1970s and 1980s nine companies vied for mineral rights to placer deposits of gold and silver in this area. They planned an initial investment of $2.3 million, but the project was abandoned because of pressure from the Emberá, in whose *comarca* the deposits are located (USDI 1975: 1214; 1986: 1055).

the magnitude of ore deposits in the central cordillera of Chiriquí (Cerro Chorcha and Cerro Colorado), the central Caribbean (Petaquilla, Río Botija, and Río del Medio), and the eastern San Blas *serranía* (Río Pito).[13] The El Gallo ore body in the Azuero Peninsula also produces copper, but we have not found mineralogical details (UN 1969).

The surface deposits of Petaquilla and Botija, in the heart of the contact period trading district of Veragua, cover two square kilometers (Esquivel n.d.: 5; Quirós 1968). The original UN survey report determined that the copper is not found in veins but is disseminated in all rock types. Peter Folk (personal communication to Griggs, 2000), who participated in mineral surveys for the Teck Corporation, observes that native copper and cuprite are present in the superficial environment at Petaquilla and "would have been available for extraction by (native peoples)." A similar situation presumably prevails at Cerro Colorado, Botija, and Río Pito. UN exploration geologists reported native copper at Las Uvitas, near Santiago (UN 1969). Sauer's (1966: 246) statement that Central America lacked suitable copper ores (for reduction to its metallic form) is incorrect.

Silver as a geographic diagnostic. Materials analysis demonstrates that the majority of gold ornaments found in Panama are intentional alloys of gold and copper in different proportions (generally more gold in hammered artifacts and more copper in cast ones, for well-known technical reasons). Although silver is frequently an important component of finished objects (and in a few cases, the most important), it is generally accepted that Pre-Columbian metalsmiths north of the Andes did not refine it. Lead and iron have also been recorded as impurities in Panamanian artifacts (Fleming 1992; Lothrop 1937; 1950; 1952; Root 1937; 1950). Both these minerals are present as trace elements in a few Panamanian gold ore bodies (UN 1971).

Archaeologists have interpreted variations in silver content (expressed as a percentage of gold, copper, and silver) as indicators of the "local" or "foreign" origin of Pre-Columbian ornaments. For example, Lothrop (1937: 71–79) originally proposed that Sitio Conte ornaments devoid of silver were manufactured at or near this site, whereas other argentiferous ornaments were introduced from Colombia or made locally from imported ores or, alternatively, blends of local and foreign ores.[14] Lothrop (1950) later discovered that many ornaments from tombs in south-western Veraguas also had a high silver content. W. C. Root

[13] Reserves at Cerro Colorado, one of the largest deposits in the world (USDI 1977: 1171) and the subject of acrimonious controversy (Gjording 1983; 1990), were estimated in 1980 to be 1.4 billion metric tons of low-grade porphyry copper (USDI 1980: 1258). In 1979 Petaquilla's reserves were estimated as 300 million tons averaging 0.7% copper (USDI 1978–79: 1167); Botija's at 130 million tons at 0.72%.

[14] Lothrop (1937: tables 9–10) argues that eight out of nine Sitio Conte artifacts with more than 9% silver were of "foreign origin." The truth is that the Peabody Museum archaeologists recovered only one of these "foreign" artifacts in a Sitio Conte mortuary feature. Since they purchased the remainder, there is no proof that these were found at Sitio Conte nor, for that matter, in central Panama (Howe 1986: 172). The single in-context object of this group of nine is a figurine pendant that depicts a human face with stylized arms and legs and a headdress that has been described as "seahorse-shaped" (Lothrop 1937: fig. 151). This pendant was found in Sitio Conte's grave 32, alongside an adult skeleton; ceramic associations suggest a date of cal A.D. 700–750. A similar figurine pendant (Hearne and Sharer 1992: plate 21) was found in grave 74. It is cross-dated by pottery associations to cal A.D. 750–950 (Table 1).

(1950: 93) recorded as much as 46 percent and 74 percent silver in two of these artifacts and concluded that "at least one source of Veraguan gold contained far more silver than any gold found in Coclé or Colombia." Stuart Fleming (1992) determined that ores used to make objects from "western Panama" were silver-rich (10 artifacts that he examined had a silver content of 3.3–33 percent. His term *western Panama* is assumed to mean the provinces of Chiriquí and Veraguas) (see Table 3, p. 144).

Silver is present in many Panamanian ore deposits that also contain copper and gold. It is less ubiquitous than the latter minerals, but in some areas it has a high frequency. Panama exported small amounts of silver in the late nineteenth century (Bulletin du Canal Interocéanique 1882) (Table 2; Fig. 3). What is not clear is how accessible placer silver would have been to Pre-Columbian smiths. Peter Folk (personal communication, 2000) comments on the basis of his experience at the large ore deposit at Molejón, that an assay from a drill would not necessarily be maintained in downstream placers because of the propensity of silver to leach out more rapidly than gold; when he sliced and examined nuggets by electron microscopy, a rind of essentially pure gold could sometimes be seen enveloping the gold-silver amalgam in the center. Fernández de Oviedo understood this process: "the further gold has been carried from the place of its origin to the place where it is discovered, the smoother and more purified it is, and of higher carat. The nearer it is found to its place of origin, the rougher, less pure, and of lower carat it is" (1959: 109).

In conclusion, it is unwise either to use silver content as an indicator of the geographic provenience of finished artifacts or to assume that it independently substantiates stylistic divisions (Lothrop 1937; 1950), that is, that finished artifacts with high silver content are by definition from Colombia, western Panama, or Veraguas-Diquís. Clearly, the central Caribbean slopes—particulary the Belén and Coclé del Norte drainages—are just as likely to have been a source for silver-rich ores.

Pre-Columbian mines. In his *Natural History of the West Indies*, Fernández de Oviedo states that most gold in Castilla del Oro was found on the slopes of hills and in the beds of rivers and streams (as placer deposits) (1959: 107–109). Since he was the royal overseer (*veedor*) of mining and smelting, one can assume he knew what he was talking about. He does not give precise geographical locations for the mines, which were worked by native peoples under Spanish supervision, but his curriculum vitae suggests he must have observed them between the environs of Santa María la Antigua and those areas of Veragua that had been penetrated by Spanish troops by the 1520s. Oviedo reports that gold was obtained either by digging shallow pits and washing sediments in trays or by diverting a stream and then gathering ores collected under and around rocks in the dry bed, processes still used today (Fig. 4a,b).[15] Restrepo (1979: 133) quotes an 1812 report on Veraguan mines by Juan Antonio de la Mina, who claimed that "the ancients worked . . . *hucicas* be-

[15] During his survey of the Petaquilla mining concession in 1998, Griggs located three goldworking operations. One was a series of trenches adjacent to a creek. The other two appear to have been ground-sluicing operations, one of which was adjacent to a brook and the other near a faster-flowing section of the river. Their age is unknown.

cause many tools and other objects have been found in them."[16]

There is no field evidence for Pre-Columbian mining of Panamanian vein deposits: some "mines" described by the first Spanish military expeditions, like the one seen by Diego Porras (see p. 110) were probably holes dug through fluvial or outwash deposits (Fig. 4b). Robert West (1952) summarizes data for pre-Spanish mining of veins in Colombia (at Buritica in Antioquia, Frontino in the Cordillera Occidental, and Mariquita in the Magdalena Valley). Bray (1978: 24–26) presented evidence from nineteenth-century travelers for shafts dug by Pre-Columbian miners in order to reach gold-bearing quartz veins in the cordilleras of Caldas and Antioquia. He classified Buritica as a "true industrial centre, exploiting both alluvial and vein gold and exchanging the surplus for food and other necessities." A purposive survey undertaken by Shimada (1994) in the Andes located small mines for target veins. Systematically searching for evidence of Pre-Columbian activities at Panamanian vein or alluvial outwash mines and ground-sluicing operations would be a time-consuming but worthwhile field project. So would consolidating knowledge about the distribution, availability, and metallurgical potential of native copper.

Ores and Artifact Production: The Documentary Record

Cori, Comogre, and Dabaibe. One paradox has been obvious to scholars since the Sitio Conte discoveries in the 1930s and 1940s. The widespread use of locally produced gold ornaments in Panama is indicated by contact period descriptions of the dead and living bedecked with gold, Pre-Columbian graves replete with the same kinds of artifacts that the Spanish described, and representations in gold of images commonly depicted on other media, including pottery, shell, and bone. On the other hand, there is very little written information about crafting gold and tantalizingly few objects or tools from archaeological sites that allude to this activity.

This contradictory situation was noticed by Lothrop (1937: 72) and explored by geographer Carl Sauer and anthropologist, Mary Helms. Sauer (1966: 244–245) is adamant that too little gold was produced in Panamanian placer deposits to allow much local production; his belief that copper was not obtained locally led him to propose that it was imported from Mexico and Peru (1966: 246). Although Sauer acknowledges that nose and ear pieces of fine gold may have been hammered out from locally obtained nuggets, the casting of gold and its alloying were, in his opinion, special skills that demanded a metallurgical knowledge of which the native Panamanians were unaware. If the Spaniards were so intent on getting gold, he concludes "would they have failed to mention artificers of gold objects if they had found any?" (1966: 276)

Helms undertook *Ancient Panama* in order to explore the implications of Sauer's conclusions (1979: 3). She constructed her detailed text around two important ideas: that power on the Pre-Columbian isthmus was intimately related to the acquisition of crafted objects

[16] Interestingly, the *hucicas* in question are described as a series of low hills located between the Santiago and Barrera Rivers, just south of the Turlurí mine.

and esoteric knowledge from "distant" realms, and that the appearance of rank societies in Panama coincided with the development of trade in "sophisticated" gold pieces and contacts with culturally superior Colombian chiefdoms (1979: 168).

Helms accepts that a moderate supply of raw gold existed in Panama, especially in interior regions, where it was traded to more populous areas. She also acknowledges (1979: 127) that documentary and archaeological evidence supports the existence of metallurgical processes she considers "simple," such as gilding, hammering, embossing, annealing, and alloying. Contradictorily, she also accepts the presence of "a long-established gold manufacturing region in the general Talamanca-Veragua area of northeast Costa Rica and northwest Panama" (1979: 3, 35, 84, 149). Nevertheless, Helms insists that many of the "elaborate" gold pieces—particularly cast gold or tumbaga effigy pendants and nose clips showing "outside influence"—must have been crafted beyond the isthmus and obtained through contacts with geographically distant regions, perhaps in exchange for raw gold (1979: 86, 139, 153, 156). Convinced by Lothrop's assessment of the origin of "foreign" pieces at Sitio Conte, Helms accepts Colombia as their most likely source, especially the Sinú and Quimbaya regions, to which, she surmises, Panamanian élites from regionally influential centers made visits of political, religious, and educational natures (1979: 58–59, 65). She also argues for a trade imbalance, proposing that although several Colombian ornaments had been found in Panamanian graves, the opposite was not true (1979: 201).

In *Ancient Panama*, Helms constantly apologizes for the poverty of primary data that would substantiate her hypotheses (1979: 80, 140). At the same time, her judgment of written source material is as uneven as her appreciation of what constitutes technological and artistic excellence. She has no qualms about accepting the secondhand reports of Vasco Núñez de Balboa about an exchange system on the San Juan (or Atrato) River, in Colombia, whereby raw gold obtained in alluvial gravels in outlying districts was sent to workshops at the chief Dabaibe's settlement in exchange for humans, peccaries, fish, salt, cotton clothing, and cast gold ornaments "made to order" (*como ellos las quieren*). It was reputed that 100 artisans worked in Dabaibe's house (Cieza de León 1945: 51; Jopling 1994: 23–24; Sauer 1966: 227).

On the other hand, two other hearsay accounts of similar exchange systems in Panama were rejected by Helms (and by Sauer) as unrealistic. One appears in Pedraria Dávila's 1510 letter that criticized Balboa (Jopling 1994: 21–22). Pedrarias had heard reports about the chieftain of Panama—Cori, Coli, or Coti, (depending on the transcription)—who was famed as an accomplished smelter of gold.

Another influential Darién chieftain, Comogre, was also described to Balboa as a recipient of raw gold: "The Indians of the other sea," he was told, "come to the house of this chieftain Comogre in canoes . . . [T]hey bring gold from the mines in grains up a river that reaches Comogre's house in order to melt it down in very large grains" (Jopling 1994: 24; Sauer 1966: 276). Cotton clothes and young men and women were given in exchange. Subsequent Spanish visits to Comogre's principal village confirmed the use of gold objects to embellish desiccated corpses in large wooden mortuary houses, but produced no more details about crafting gold (Martyr 1912).

Sauer objects to the story about Cori the goldsmith, because the native settlement at Panama was subsequently shown to be a mere fishing village "of little interest for treasure and none for gold-smelting" (1966: 276). C. L. G. Anderson (1914: 192) makes the same comment. A settlement called Panama was first visited by Tello de Guzmán in 1515. The following year Espinosa found only a few huts and a single woman. It was presumably the place where the original Spanish city of Panama was founded (in August, 1519), one kilometer east of the now ruined Panamá la Vieja where archaeologists have demonstrated the existence of a sizeable Pre-Columbian settlement with burials, which was surely more than a fishing village (Biese 1964; Martín 2003a, b). A possible clay crucible (Fig. 5c) was found here. Helms (1979: 46) ripostes thus to the Comogre story: "although the . . . gold grains were brought to Comogre to be melted there is no . . . specific mention in the Spanish documents of metallurgical works at Comogre." Her explanation? "Gold grains and perhaps some pearls obtained by Comogre in exchange for (locally produced?) textiles and war captives were further exchanged by him with still other peoples, perhaps in return for fabricated (hammered) gold-work obtained from hill groups of the northern Serranía de Cañazas" (Helms 1979: 46). A simpler exchange/production model is proposed: there were goldsmiths in Comogre's village who produced ornaments with gold nuggets acquired through barter with other areas.

How "simple" is simple? Sauer's and Helms's opinion that hammered artifacts are inferior to cast ones is not shared by other commentators. Lothrop asserts (1937: 139) that the "vigor and confidence" of the designs on the Sitio Conte hammered and embossed plaques and the height of their relief represent the most complex form of "Coclé art." According to Emmerich (1977: 95) "the embossed breast-plates of Coclé are among the most beautiful objects produced by this culture and the finest accomplishment achieved with the repoussé technique anywhere in ancient America since Chavín times." Bray (1978: 29) also criticizes the idea that hammering is a primitive and, therefore, primeval technique. Most Colombian sheet metal objects are made of man-made alloys, and most would have required alternating hammering and annealing, by no means simple tasks. It is likely that most Panamanian hammered objects were made in the same way.

Adducing that if the Spanish failed to mention a particular craft it was not practiced in contact times is also questionable. Sauer (1966: 271) uses Gaspar de Espinosa's observation that the territory of Escoria, on the Santa María River in central Panama, manufactured arms for surrounding areas (Jopling 1994: 54) to support his idea that had the Spanish encountered goldsmithing they would have described it. Espinosa, however, does not detail what kinds of arms these were. There are no extant contact period descriptions of Panamanian polychrome pottery, which was widely used in domestic and ritual contexts when the Spanish arrived. Chroniclers describe woven goods in better detail, though not the ways in which they were made. Therefore, the absence of early-sixteenth-century descriptions of goldsmithing does not constitute proof that native Panamanians were unable to cast and depletion gild artifacts.

Two Franciscan priests who attempted to convert "free" natives to Catholicism in the first two decades of the seventeenth century describe the manufacture of cast and hammered items. Agustín de Ceballos, who resided with Talamancan peoples on the Caribbean watershed of Costa Rica, remarked that "the Indians hereabouts make . . . eagles, lizards, toads, spiders, medals, plates and many other items of gold, many kinds of which they make by pouring gold into molds after melting it down in clay crucibles . . . [T]heir poor skill obliges them to mix copper in order to melt the gold . . . but in the plates, which they only beat and extend without having to mix (copper), the purity of the gold is noteworthy, reaching 20 carats" (Fernandez Guardia 1968: 9–10; translation by R. Cooke). At this time these Talamancan peoples—antecedents of the modern Bribri, Cabécar, and Naso (or Térraba)—were few in number, and lived in dispersed hamlets on hill tops along rivers.

De Ceballos's observations are substantiated by a document written by Fray Gabriel Téllez in which he summarizes information obtained from other Franciscans between 1614 and 1616 in "Veragua," probably, but not definitely, in modern Panamanian territory. Téllez (1974: 376) notes that an unnamed people who wore bark cloth skirts also wore around their necks "trinkets of low grade gold or copper, which are like misshapen creatures, eagles, and other little animals crudely made in molds."[17]

Ores and Artifact Production: The Archaeological Record

Cooke and Bray (1985: 35) mention a find made by an amateur archaeologist in 1951, eight kilometers from the archaeological site of El Caño, of "the tomb of a goldsmith. . .with seven collapsed furnaces, molds, a quantity of river sand with flakes of gold and copper, and painted plates and personal jewelry, including gold-capped ear rods" (see also Linares 1977). This person was likely Neville Harte, an active and dishonest looter, who, nonetheless, carefully recorded details of his excavations (Cooke et al. 2000). Cooke and Bray (1985) also refer to a basalt chisel with a "heavy residue of gold at the tip" (possibly used for embossing). This observation has not been verified mineralogically. Sounder evidence for the manufacture of lost wax figurines is a miscasting from an un-provenienced tomb in Veraguas, that was photographed by Junius Bird in the old Museo del Hombre Panameño in Panama City in the 1970s. Figure 5a is a slide he made of it (see also Cooke and Bray 1985: fig. 1). The pouring sprue is clearly visible.

Lothrop found a few items at Sitio Conte that appear to be ingots (Fig. 4c). The bar (1) is 97% copper, weighs 43 g and was found in grave 26, which was one of the richest in gold ornaments (Briggs 1989: 269–277). One of the small ingots (2) contained 89% gold and 11% copper; two (3–4), which were analyzed together, 97.6% gold and 2.4% silver; and one (5), weighing 114 g, 91.9% copper. They may be materials imported for goldsmithing (Bray 1978: 29). In the Sitio Conte mortuary features, masses of copper recorded in the field catalogue were mostly corroded artifacts, but "oxidized copper ore" in grave 1 (Lothrop 1937: 215) and "three lumps of copper" in grave 13 (Lothrop 1937: 37) may have been native copper for crafting metal ornaments. Lothrop (1937: 77–78) hypothesizes that some

[17] "Joyuelas de oro vajo y cuando de cobre, como son sauandijas mal formadas, águilas y otros animalillos toscamente formados."

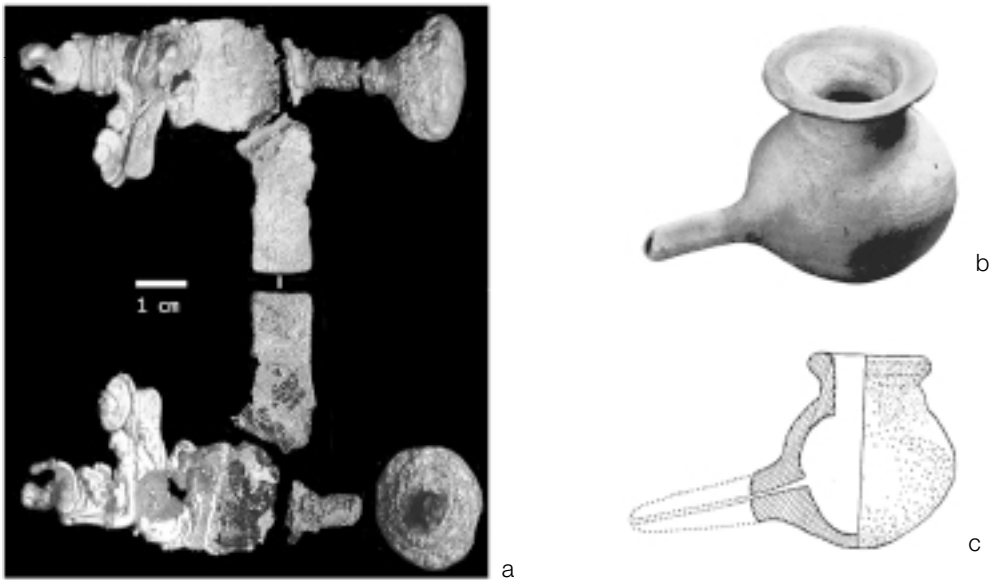

Fig. 5 Evidence for the production of gold artifacts in Panama: (*a*) miscasting purportedly found in Veraguas, Panama, Museo de Antropología, *Reina Torres de Araúz*, Panama City (photo by J. B. Bird), (*b-c*) clay vessels with lateral basal spouts (possibly crucibles), respectively from Sitio Conte (Lothrop 1942: fig. 337a) and from Panama Viejo (after Biese 1964: fig. 9c). The Sitio Conte vessel is fire-blackened on the right-hand side.

small pottery vessels from Sitio Conte may have been crucibles. They showed traces of heat, although remains of slag were not detected on their walls. Figure 5b–c illustrates two small collared vessels with long spouts projecting from the sides. One (b), from Sitio Conte (1942a: fig. 337a), is fire-blackened on the right hand side. The other (c) is from Panama Viejo (Biese 1964: fig. 9c).

The ubiquity of gold and copper in Panamanian fluvial gravels and hill slope outwash deposits, the presence in some areas of gold, copper, and silver veins in quartz and andesite lodes, and various documentary reports of the contact period exploitation of placer ore suggest that mineral deposits were sufficiently productive and accessible in Pre-Columbian Panama to support the production of the numbers and kinds of metal artifacts that have been found archaeologically. Clearly, as Fernández de Oviedo remarks, not every political territory in Pre-Columbian Panama possessed copper and gold ores. Some would have had more productive sources than others. These ores were probably not as widely or evenly distributed as, say, clays for making pots or siliceous stones for making cutting tools, but their accessibility may have been similar to that of other vital commodities, such as lavas and tuffs for grinding implements and basalt and andesite for polished stone axes. Spanish soldier Pascual de Andagoya pithily remarked that "the [Isthmian] chiefs either got their gold by barter or in the mines that the Indians dug for them" (Jopling 1994: 30; our emphasis).[18] Among several contact period references to alluvial gold, Balboa's letter of 20 January

[18] "El oro que ellos tenían o era de rescates o que en las minas se le cavaban los indios."

1513 mentions that the territory of Careta, on the central San Blas coast, contained rivers with gold and describes the collection of gold nuggets in river gravels (Jopling 1994: 30).[19]

The extraction of gold and pearls remained Panama's most important economic activity until its consolidation as transit point for the Peruvian trade (Mena García 1984: 132–136). Many of the vein, alluvial, and *aluvión de cerro* deposits that were exploited during the colonial era have been reused off and on by artisanal prospectors and small mining companies. Often, mining operations were abandoned not because the ores ran out, but because of Native American hostility (e.g. Turlurí and Cana), world-wide economic depression (as with Escobal and Remance), low gold prices (which affected Remance), and, recently, environmentalist pressure (as with Cerro Colorado and Cerro Quema).

To sum up: it is apparent from modern mineralogical surveys and the history of mining in Panama that its gold and copper resources would have been sufficiently abundant and accessible for supplying local production centers, whose existence, in spite of unsatisfactory contact period documentation, is made likely by the widespread use, after cal A.D. 700, of technically competent gold artifacts decorated with the same images that were widely used on other media (Cooke 1998b; Cooke and Bray 1985; Lothrop 1937; 1942; Sánchez and Cooke 2000). The miscasting is the soundest archaeological evidence for goldsmithing in Panama (Fig. 5a), but it is unprovenienced and undated. The underemphasized fact that some cast pieces are clearly unfinished is also evidence (Biese 1967: 207, right; Fig. 9d). De Ceballos's and Tellez's references to casting were made almost a century after conquest, but they surely describe an indigenous tradition with pre-contact roots. Talamanca and Veragua were peripheral to Spanish society and economy (Castillero Calvo 1995). Before A.D. 1502, however, they were roundly integrated into well-organized and ancient social and commercial networks that took advantage of a particular geographical property of the Lower Central American isthmus: contrasting habitats and resources located on opposite watersheds traversed by streams that run perpendicular to major mountain chains.

Who acquired and exchanged gold?

The Traders of "Veragua"

> The natives of Veraguas were perhaps the greatest exporters of jewelry in the New World. (Lothrop 1952: 99)

> [The people of Veragua] valued objects of gold alloy which had been traded in from elsewhere, and also nose and ear pieces beaten out of fine gold that may have been made locally. (Sauer 1966: 133)

[19] "La manera como se coge es que lo ven estar en el agua y lo apañan y lo echan en sus cestas; asimismo lo cogen en los arroyos desde que están secos."

The Caribbean coast of Panama between the Chiriquí Lagoon and the Panama Canal is known for its lack of natural harbors and its strong winds and torrential rains, which abate for only a few weeks each year. Livestock raising and slash-and-burn agriculture have eaten away at the edges of the humid forest, but a sizeable tract with imposing trees still exists between the Guázaro and Belén rivers (Fig. 3). Eyewitness accounts verify that in 1503 the area between the Belén and Calovébora Rivers was likewise forested. Human activities would have been more noticeable than today, for example, villages with scattered houses on hills and spurs, a paucity of terrestrial wildlife, and many palms, mamee-apples, and other fruit trees (Christopher Columbus in Jane 1988; Ferdinand Columbus in Lothrop 1950; Martyr 1912; Méndez 1988; Porras 1984).[20]

Christopher Columbus first heard of "Veragua" when he was anchored at "Cariay" (Puerto Limón, Costa Rica) (Morison and Obregón 1964). It was here that he witnessed the generalized Lower Central American customs of embalming corpses and bedecking them with gold finery and where he was told of copper mines, silversmiths, and crucibles.[21] Taking Cariay natives with him as interpreters (an indication either that they were multilingual or that a trading lingua franca was used), Columbus sailed down the coast to Colón Island at the western end of Almirante Bay, whose name was a four syllable combination of S-r-b-r.[22] At this most westerly port of the territory known as Veragua, he happened upon twenty canoes manned by naked people, some of whom sported gold plates and a gold eagle. On his journey eastward, Columbus obtained forty-six of these plates, as many as the entire sample of embossed plaques from Sitio Conte.[23] Two were taken by force and the remainder were exchanged for copper bells and cloth at the ships or on the beaches.

After Guaiga (either the Chiriquí or Cañaveral Rivers), Columbus encountered increasing trading activity. Between Guaiga and Cubiga—that is, between the Belén and Coclé del Norte Rivers—he identifies five "towns of great trade" (in Lothrop 1950: 4), one of which was Veragua on the river of the same name. Columbus obtained twenty gold plates there and, according to his son "hollow pieces like joints of reeds and some grains never melted, which to make their value the more, they said they were gathered a great way off from uncouth mountains" (in Lothrop 1950: 4).

After traveling east, Columbus soon turned back, arriving on 9 January 1503 at the mouth of the Yebra or Belén River, where he built a small settlement, Santa María de Belén. On 6 February, Bartholomew Columbus took a troop of men to the mouth of the Veraguas River, a league west of Belén, and then traveled 1.5 leagues upstream to the house of the *quibian* or local headman.[24] Today, the mouths of the Belén and Veraguas Rivers are about

[20] These references provided the ethnohistoric data in this section.

[21] "Ai grandes mineros de cobre . . . i fraguas con todo su aparejo de platero, i los crisoles" (Jane 1988: 101).

[22] According to Carlos Meléndez (1976: 131), one of the two chiefs of the Naso or Térraba was called Corabarú. It is conceivable, therefore, that these people were antecedents of the Naso.

[23] His son Ferdinand said they were "like the paten of a chalice, some bigger and some less, weighing 12 ducats more or less" and were worn "about their necks, hanging by a string, as we do relicks" (in Lothrop 1950: 5).

[24] This would place the *quibian*'s house at the modern *caserío* of Las Cruces, which is adjacent to a prominent 100-meter-high hill alongside the river.

four kilometers apart, but the latter river flows abruptly southwest so that one kilometer upstream the two courses are five kilometers from each other, closer to historians' estimates for a Spanish league. The following day the Spanish contingent traveled 4.5 more leagues inland (about 22.5 kilometers southward toward the cordillera), commenting that they crossed a river forty-four times. The morning after, they walked 1.5 leagues to some mines where, in two hours, the troops gathered gold around the roots of trees that "reached to the sky." These may be the same ones as Diego de Porras's "mines deep down, that belonged to these very Indians, about half a stade deep [1 meter]; they are very clever at getting the gold out. A group of 75 of us went to the mines and we extracted two or three *castellanos* in a single day without any kind of apparatus.... The gold is very fine" (1984: 303).[25] Peter Martyr (1912) later heard from some of Columbus's men that the ores were sought at certain times of the year, without women being present, under some kind of dietary controls, and accompanied by ceremonies involving "deities" (see also Helms 1992: 321).

Columbus's men realized the quibian had deceived them. These mines were not in his territory at all, but in those of a rival headman, Urirá, whose village is recorded by Ferdinand as being seven leagues west of Belén and a league upstream, a distance which would place Urirá about where the small Candelaria River flows into the Caribbean between the much larger Calovébora and Guázaro Rivers. The mines Bartholemew's men happened upon were in dense, tall forest. In this terrain it is difficult to keep track of the number of individual water courses one crosses, so, bearing in mind that they left the quibian's territory, it is likely that they wandered into the Concepción Valley just west of the Veraguas River. The sixteenth-century Turlurlí mine at present-day Escobal is located along the Santiago, a western tributary of the Concepción that rises closer to the Guázaro than to the Veraguas. Fernández de Oviedo (1959: 65) estimates that it was four leagues from the Caribbean Sea (twenty kilometers based on a five kilometer league), but other documents (Jopling 1994) put the figure as three leagues (or fifteen kilometers). If one goes to the mine up the Concepción River to Barrera and then up the Santiago, one ends up walking about thirteen kilometers, as Cooke did when he visited Escobal in 1977. It is thus feasible that Bartholomew's men extracted their fine nuggets not far from the Turlurí mine which went into production fifty years later with hundreds of African slaves. This suggests that gold was extracted at Turlurí in pre-Spanish times.

On subsequent visits to Urirá, Cobrava (surely Calovébora), and Cateba (further west still), the Spanish were regularly offered gold plates and food. They returned to the house of the quibian of the Veraguas River that was built of fine timber and palm thatch near a plaza on a flat spur (not in a real town, but in a cluster of houses on hills). Columbus's men thought this settlement was the most imposing on the Veragua coast.[26] Included in the 300

[25] "Hallamos muchas minas afondadas de los mismos indios fondura de medio estado; son muy diestros en sacar el oro. Fuimos setenta y cinco hombres a ellas y, en obra de un día, sacamos dos o tres castellanos sin aparejo ninguno sino de las mismas minas que los indios tenían fechas; es el oro muy menudo."

[26] Diego de Porras states "Su poblacion era la mejor que avía en la costa e de mejores casas de muy buena madera, todas cubiertas de fojas de palmas." (His town was the best there was on the coast and had the best houses of very good wood, all covered with palm leaves.)

ducats worth of plunder were more gold plates, eagles, and small quills, which the local people strung around their arms and legs, and gold twists worn around their heads like coronets (Lothrop 1937: figs. 106, 141).

Sauer (1966: 138) concluded from all these data that the admiral had not seen any placer deposits in Veragua, just a few hastily gathered nuggets, a "modest prospect" that was exaggerated by Columbus's ignorance and confusion. Helms (1978: 127; 1979: 61–63, 147, 190) was more positive, proposing that the chiefdom of the quibian of Veragua was "a focal point for regional exchange" and that some gold plates were hammered out locally in deference to Ferdinand Columbus's remarks about crafting gold in the quibian's territory.[27]

In contrast to Sauer's understatements, Lothrop (1950) proposes that Veraguas was the second great center of isthmian gold production after Coclé, although he argued that technical and iconographic differences existed between the two regions.[28] Lothrop's 1952 study of the materials dredged from the bottom of the cenote at Chichén-Itzá reaffirmed his belief that Veraguas was a center for "primitive mass production, which occupied an important place in the luxury trade of distant lands."[29]

Bray (1977; 1996; 1997) cautions that many of the cenote ornaments that Lothrop attributed to Veraguas, particularly human effigy pendants, belong to his pre-A.D.-1000 International Style. In fact, he proposes (1996: 313) that "almost every category of Isthmian metalwork found in Maya territory could have been obtained from the Atlantic side of Costa Rica." He also argues that after the fall of Chichén-Itzá trade contacts with Costa Rica and Panama slackened, while Honduras developed its own metallurgy, specializing in copper bells. Even so, at the time of Columbus's 1502 landfall, traders from further up the Central American isthmus were plying the Caribbean waters of Panama. Diego Méndez came across a canoe manned by two "foreigners" in the Veraguas river. By the time of

[27] It is possible that at a later date the Spanish really did exploit the quibian's mine. In 1566 Alonso Contreras de Guevara established a settlement three leagues up the Belén River at La Trinidad, on the west bank. Thirty miners resided here (Anderson 1914: 284; Castillero Calvo 1967: 48; Jopling 1994: 409–416, 474–478). It had been abandoned by 1760 (Castillero Calvo 1995: 376). In the first decade of the seventeenth century López de Siqueiros founded another mining settlement, Lisboa, on the Coclé del Norte, and later refounded it at the mouth of the Belén as Nueva Lisboa. The express objective of this campaign, which led to the subjugation of the Coclé people, was to find gold sources and to provide native levies to fight the rebellious Kuna (Castillero Calvo 1995: 141–142).

[28] Lothrop (1950) illustrates ornaments found by local grave looters who conveyed approximate (and in a few cases) definite locations of some finds. Most sites are along the Bubí river in the southwestern corner of the province, on the Pacific side (Fig. 1). Lothrop deduces that figurines were by far the most abundant ornament type in Veraguas, but unlike Coclé, where they were invariably cast in the round, they relied mostly on open-back casting. Sheathing was unusual in Veraguas but common in Coclé. Although there was some iconographic overlap between the two regions, certain animal icons, such as spread-eagled birds, felids, monkeys, frogs, and realistic crocodiles, were more prevalent in Lothrop's Veraguas sample, than in the Coclé one from Sitio Conte. Chronology is as likely to be responsible for these differences as geography. Lothrop proposed, too, that whereas gold ornaments had only been recovered in Pacific-side graves in Veraguas, the Atlantic was probably the origin of the ores.

[29] At this time Lothrop still believed that the Sitio Conte graves spanned the period A.D. 1330–1520 (1942: 482). Consequently, he thought that the Veraguas sample represented a regional style coeval with that of Coclé.

Columbus's fourth voyage, foreigners called *chuchures* were established near Nombre de Dios, down the coast from Veragua. Andagoya states that they came from Honduras by canoe and spoke a different language from their neighbors (Jopling 1994: 32). Another group of people, who spoke a "Mexican" language, was living at Coaza, between the Sixaola and Changuinola Rivers, by at least A.D. 1541. These were the Sigua. One sixteenth-century document notes that they had been sent by Moctezuma to collect tribute and very fine pieces of gold. A 1595 document records that 6,000 Sigua still had traffic with Mexican native peoples. Yet another document, from 1620, recalls the native population along the river Changuinola River being "subject to Moctezuma" and living "where the Mexicans came to get their gold for their idols and offerings" (Lothrop 1942b). The Sigua later moved to Seraboró (Colón Island, Bocas del Toro), where they intermarried with Chánguenas, Dorasques, and Térrabas, ethniae that spoke or still speak Chibchan-stock languages (Constenla 1991). They continued to trade hatchets and machetes for necklaces and belts of shell, and are last mentioned in 1763, when a Spanish priest, Manuel de Urcullú, fantasized them as monkey-men, and rationalized them as traders who exchanged local cacao (Lothrop 1942b).

Social complexity and trade in Veragua. One thing that struck the Spaniards as anomalous along the Veragua coast was that in spite of the abundance of finished gold artifacts the people who wore them did not stand out sartorially as especially important: Ferdinand Columbus was surprised to find the leader of the territory of Cateba dressed like everybody else. What most impressed him about the quibian of Veragua was the number of women he lived with.

Before the 1990s, the only trustworthy archaeological data about settlement pattern and lifestyles along the Pre-Columbian Caribbean had been recovered on the Aguacate Peninsula at the eastern end of the Chiriquí lagoon, where, between A.D. 600 and 950, small farming populations purportedly derived from Pacific polities lived in hamlets considerably less permanent and less complex than communities on the other side of the cordillera (Linares 1980a, b, c). This low-key, low-density lifestyle is consistent with the ostensibly unimpressive sartorial wealth distinctions witnessed by Columbus and his crew. New field data, however, caution us against applying the Aguacate Peninsula model to other areas of the Panamanian Caribbean. John Griggs (n.d.a) documents the human occupation of the extremely humid upper Coclé del Norte drainage as early as the second millennium B.C. by farming people who used simple pottery of the Monagrillo style (Cooke 1995), thus corroborating paleoecological data for third-millennium-B.C. agricultural activities in Caribbean forests further east in the Chagres valley (Cooke, Norr, and Piperno 1966; Piperno and Pearsall 1998: 296–297). His foot surveys of the Belén and lower Coclé del Norte drainages indicate that sites occupied after cal A.D. 700 are mostly situated on inland spurs overlooking rivers like the village of the quibian of Veragua. A small precontact settlement, SE-1, on the highest hill between the Veraguas and Escribano Rivers could well have been the coastal trading outlet of a larger village upstream (Griggs n.d).

Not all archaeological sites in this area, however, are small, shallow and unimposing. In May 2001 Griggs revisited Matthew Stirling's site of La Peguera, whose cultural refuse covers at least twelve hectares. It is located just to the north of the Spanish gold mines at San Antonio and Santa Lucía, whose tunnels and dykes are still visible. It appears to have been occupied at contact. It is therefore possible that its importance was related to the presence of gold ores. Some sites in the western and central Caribbean possessed features as complex as any that have been found on the Pacific side of Panama, where only Barriles (Chiriquí), Villalba (Chiriquí), Isla Palenque (Chiriquí), Sitio Conte (Coclé), and El Caño (Coclé) have provided field evidence for sizable above-surface structures, such as mounds and arrangements of stone columns (Haberland 1960; Linares and Sheets 1980; Linares et al. 1975; Linares de Sapir 1968; Lothrop 1937: 39–43; Verrill 1927a; 1927b; Torres de Araúz and Velarde 1978). Stirling (n.d.) reports a stone pavement in a test excavation at Quebrada Pilón on the mouth of the Indio River just east of the territory known in Columbus's days as Cubiga. He also found terracing at the modern settlement of El Uracillo further up the same river.[30] Griggs (n.d.a) has identified walled terraces at Cerro Hacha in the headwaters of the Limón river, a tributary of the Coclé del Norte. Emmerich (1977: 110) received second-hand information about mounds in Bocas del Toro associated with monumental sculptures of ferocious mien.

Another feature of recent archaeological work is evidence for close and longeval similarities between artifact styles found in the central Caribbean and at sites on the opposite side of the cordillera. For example, many of the pottery types that Griggs found on his surveys, from Early Ceramic A (Monagrillo) times on, are so similar in form and technical qualities to those from the adjacent Pacific slopes that it is reasonable to infer that their homogeneity derived from continual exchange of people and information across the mountains (Cooke and Ranere 1992b). When the Spanish were preparing to exploit the Turlurí mine, they had just survived a long war with chief Urracá, who resided in the Veraguas cordillera near Santa Fé and died in 1531. The fact that Urracá called on warriors from both watersheds in his struggle against the Spanish suggests that he held sway over or was in alliance with territories on both sides of the central cordillera.[31]

This situation is better documented for other contact period territories that stretched from coast to coast or from mountain to coast, such as Perequeté, Careta, and Comogre in Cuevan-speaking lands and Natá in Gran Coclé. Careta and Comogre, whose principal villages were in the cordillera controlled ports on the Caribbean coast (Acla and San[c]ta

[30] Stirling (n.d.) describes this feature as "a stone floor 18 feet by 9 feet, made of stone slabs of a hard green indurated sandstone. Some of the stones weighed more than a ton. They were very well fitted. The shape of the floor was elliptical with the outer edges not too symmetrical considering how well fitted the stones were. . . . I excavated under the floor thinking it might be a tomb cover, but encountered undisturbed hard clay." Stirling also records some finds of gold ornaments along the Indio River. At the Quebrada Torno Sábalo, near El Uracillo, guides told him they had found a "gold frog" and a "gold pencil" on a high ridge above the Quebrada Pilón, "some gold" on another ridge further up the Indio, a "gold alligator," and south of the terraced Pre-Columbian settlement at El Uracillo, a "gold frog" and a "gold cat."

[31] It is unknown whether the "minas de Urracá" (Jopling 1994: 220) were those of Turlurí or others on the Pacific slope of Veraguas, that is Remance, which arguably would have been within his sphere of influence.

Cruz) through which fish were obtained (Fernández de Oviedo 1853: 9, 37, 58; Jopling 1994: 5; see also Helms 1979: 41). The tradition of barter between Atlantic and Pacific populations survived the conquest in many areas. Fernández de Oviedo, who visited Natá in 1527, reported how his compatriots would send Christianized indigenous people to Veragua with cotton blankets and hammocks to barter them for good-quality gold (1959: 76; quoted in Cooke and Ranere 1992b: 285).[32] He also (1853: 140) reports that when the Cueva were not fighting, they spent their time bartering. "They carry their goods on their slaves' backs," he relates, "some carry salt, others maize, others blankets, others hammocks, others spun or un-spun cotton, others salt fish; others gold."[33] Frequent references in later colonial documents, which refer to polities that speak or spoke Chibchan-stock languages in western Panama and adjacent parts of Costa Rica, vouch for the importance of the following goods in regional exchanges: tamed wild animals, cotton cloth, salt, dogs, *carañ*a (used for embalming corpses), shell beads, war captives, and, "gold pieces, eagles, lizards, toads, spiders, medals, and patens" (Castillero Calvo 1995: 295, 302, quoting 1610 and 1697 documents).[34]

The archaeological record for cross-cordillera, short-distance exchange is not as detailed as the ethnohistoric record, but it does attest to the antiquity and complexity of this behavior. Linares (1980b) argued that basalt axes, andesite blades, and certain kinds of non-local pottery were brought into Cerro Brujo on the Aguacate Peninsula from the central cordillera or Pacific. At least two shell taxa (*Oliva caribaea* and *Calliostoma* sp.) found in the earliest mortuary unit (cal A.D. 170–700) at Cerro Juan Díaz are from the Caribbean (Cooke and Sánchez 1998; Cooke et al. 2000). So, too, is manatee bone found at Late Preceramic B Cerro Mangote (Cooke and Ranere 1992b: 268) and at Finca Calderón (He-4) and Sitio Conte, two sites at which it was elegantly carved (sometimes sheathed with gold) (Ladd 1964: 270, pl. 1; Lothrop 1937: 170). (Manatee bone was also used for the sword-clubs depicted on warrior figurines [Fig. 9c–d and h].) Griggs (n.d.a.) found *Humiriastrum diguense* seeds in his excavations at Limón. Although this particular species is not a documented source for balsam, as *Humiria* is (Gentry 1975), local residents say it provides an aromatic sap. It is likely that embalming agents were an important exchange commodity in Pre-Columbian Panama where multistage burial rites demanded the preservation of cadavers.

[32] "En mi pressencia se ha fundido muchas veces oro, llevado de Veragua en patenas é otras piecas que por rescates avian: é en un tiempo desde la villa de Natá enviaban continuamente los chripstianos allí vecinos a sus indios mansos á rescatar en Veragua con mantas de algodon é hamacas, é traian al quarto o quinto dia que tornaban, muy buen oro. E yo lo hice fundir, como digo, muchas veces, y he visto harta cantidad trayda de ellí en diversos tiempos." (Gold has frequently been melted down in my presence, brought from Veragua as patens and other objects obtained by barter: and there was a time when the Christian residents of the town of Natá would continually send their docile Indians on bartering trips to Veragua with cotton blankets and hammocks, and after four or five days they would bring back very good gold. I would often have this melted down, as I said, and I have seen a goodly amount brought thence on many occasions.)

[33] "Llevan sus cargas á cuestas de sus esclavos: unos llevan sal, otros mahiz, otros mantas, otras hamacas, otros algodon hilado o por hilar, otros pescados salados; otros llevan oro (al qual en a lengua de Cueva llaman yrabra)."

[34] "Piezas de oro, águilas, lagartillos, sapos, arañas, medallas, patenas."

In the Caribbean foothills near Limón, Griggs (n.d.a.) has also located some extensive quarries and workshops for basalt axes with abundant bifacially reduced, but unpolished blanks. Quarry produce was probably exchanged with Pacific-side communities, including Sitio Sierra and Cerro Juan Díaz, where there is evidence for axes being re-worked and re-sharpened (Cooke 1977).

In conclusion, although we cannot yet demonstrate with contextualized archaeological data that gold ornaments were produced along the central Caribbean slopes of Panama in Pre-Columbian times, ethnohistoric data from 1502 to 1610 indicate that it is highly likely that they were and that they included cast pieces as well as hammered ones. Intensive modern geological reconnaissance shows that gold-silver amalgam ores and copper (often with high silver content) would have been as abundant in central Caribbean placers and vein deposits as anywhere else in Panama and especially concentrated between the Santiago and Coclé del Norte Rivers. There is field evidence for primitive sluicing operations the age of which has not been established. The fact that the particularly extensive contact period La Peguera site is located in the vicinity of two important Spanish gold mines (San Antonio and Santa Lucía) suggests its importance may have been related to the extraction of ores. The quibian of Veragua and chief Urirá are likely to have exploited alluvial or vein deposits that were productive in Colonial times. Archaeologists should be mindful that finds of copper in future excavations could represent cuprite and native copper from superficial deposits such as those at Petaquilla and Botija.

External Trade

Although it is tempting to assume that the Sigua who arrived in Bocas del Toro in search of cacao and gold sought crafted artifacts, historical documents are ambiguous on this point. Bray (1996) is unaware of gold imports from Central America that date to the Late Post-Classic and proposes that since Maya metalsmiths were autonomous at this time, their interest had shifted from ornaments to raw metal. That is perhaps what Mexican traders were after in Caribbean Panama. In later times, the Mískito and other outsiders would come to this stretch of the coast in order to obtain zarzaparilla (*Smilax* spp.), manatee skins, cacao, and turtle-shell (Castillero Calvo 1995: 313). Whether these activities really represented *exchange*, with a degree of reciprocity, or whether the above-mentioned commodities were acquired in other ways (including coercion) by Central Americans remains moot.[35] If this really was exchange, what was received in return? For all the mileage that long-distance trade has been given in the literature, archaeological evidence for objects fashioned outside Panama remains surprisingly scarce: a bifacial carnelian tool (Fig. 6a) reminiscent of sacrificial knives from central Mexico that was found on the Belén River, a

[35] It is, of course, possible that the contact period appearance of people culturally Mexican in Panama was a result of social disruption caused by the arrival of the Spanish. Another possible scenario is that the Spanish coincided with a very recent drive by these peoples into Panama with the intent to colonize. Andagoya (Jopling 1994) relates how chief Parita defeated an invading army that had entered Panama from Nicaragua just before Gaspar de Espinosa's incursions of 1516–17.

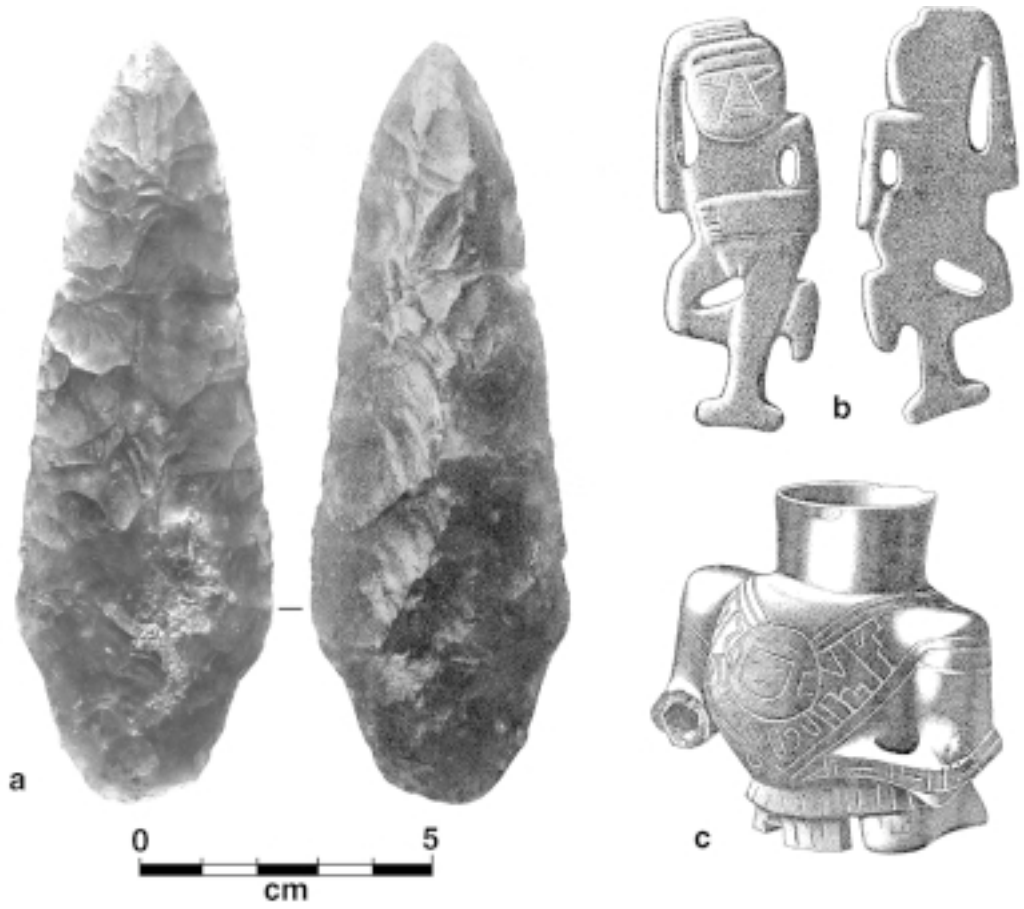

Fig. 6 Very few artifacts crafted outside the isthmus have been found in Panama: (a) bifacial carnelian (brown chalcedony) knife, atypical in terms of Panamanian lithic traditions (Ranere 1992; Ranere and Cooke 1995; 1996). Its dimensions and flaking characteristics recall Mixteca-Puebla and Aztec sacrificial knives (photo by Richard Cooke); (b) jade figurine in female form supposedly found in Veraguas (after Lothrop 1950: fig. 142); (c) broken plumbate vessel, Chiriquí (after Lothrop 1950: fig. 143).

jade pendant from Pacific Veraguas (described by Lothrop [1950: 87] as "Olmec" and referred to Oaxaca or Guerrero) (Fig. 6b), a Plumbate vessel from Chiriquí (Fig. 6c), a pebble engraved with a Maya design purportedly found on a beach in Chiriquí (Bray 1996: 311, fig. 4), and a black Late Chimú effigy vessel supposedly found near Panama City (Lothrop 1942a: fig. 440).

Who used gold artifacts and how were they displayed?

The ostensibly reasonable idea that in Pre-Columbian Panama gold meant wealth goes back to W. H. Holmes, who studied collections obtained from looters in Chiriquí.[36] "[Gold] ornaments are found only in a small percentage of [Chiriquí] graves," he remarks,

"those probably of persons sufficiently opulent to possess them in life; a majority of graves contain none whatsoever" (Holmes, 1888: 36; see also MacCurdy 1911: 193). Holmes and G.G. MacCurdy worked only with artifacts obtained by American and European dilettanti from looters. The differential distribution of gold ornaments in mortuary contexts, and, by extrapolation, among the local population, did not receive archaeological confirmation until the Sitio Conte excavations in the 1930s (Lothrop 1937). Twenty of the 59 graves excavated by the Harvard team and 15 of the 41 burials studied later by Mason and his colleagues contained metal; they represented therefore 35 percent of the graves excavated during their four field seasons. This is a much larger proportion than at other Panamanian sites (Table 1) and reflects the fact that Sitio Conte was an unusual site.

Pre-Sitio Conte Mortuary Features

Radiocarbon chronology (Cooke et al. 2000) suggests that the Sitio Conte burials represent the period cal A.D. 750–950, a 200-year span that accords remarkably well with Lothrop's (1942a: fig. 486) proposal that the graves he excavated were used during a period of 190 years. Mortuary features at a handful of sites that border Parita Bay and the Gulf of Montijo have produced metal ornaments that are older.

At Cerro Juan Díaz, three burial features stratified under an unusual circular arrangement of stone-lined pits contained gold and copper jewelry. It has been proposed that these pits were ovens (Cooke and Sánchez 1998; Cooke et al. 2000). The only complete metal artifact recovered in situ in feature 16 there was a large ring with high copper content, which had been placed within a burial bundle containing an unsexed adult and a child. Its dating was discussed on page 95. In the same bundle, project archaeologists Luís Sánchez and Aguilardo Pérez found 55 perforated puma canines, another group of 18 puma (*Puma concolor*), ocelot (*Leopardus pardalis*), and raccoon (*Procyon lotor*) teeth, 31 *Spondylus* pendants and beads, two pearls, and two polished stone bars of very hard stone (Cooke 1998b: fig. 4.8; Cooke and Sánchez 1998: fig. 5). The two groups of mammal teeth were probably separate necklaces belonging, respectively, to the adult and the juvenile in the bundle.

Also located beneath the ovens was a subrectangular grave (feature 1), in which the principal occupant was a primarily interred adult (probably male). Alongside his left tibia were two hammered plaques in proximity to about 400 elongated beads of *Spondylus* and 24 canine teeth of jaguar and puma, perforated through the roots. Two ceramic incense plates were associated with the same individual, whose remains had been disturbed by a subsequent tomb. The gold plaques, felid teeth, and shell beads may have formed part of a single composite artifact, such as a shirt or apron (Cooke and Sánchez 1998: fig. 4).

The co-occurrence of goldwork, incense burners, necklaces of big cat teeth, polished stone bars, and garments decorated with shell tubes with a few individuals is consistent with the hypothesis that these associations refer to a special occupation, such as that of

[36] Now the Panamanian provinces of Chiriquí and Bocas del Toro and neighboring zones that have been under Costa Rican jurisdiction since the Coto war.

healer or shaman. Support for this idea is provided by the fact that none of the owners of metalwork and other special artifacts in pre-cal-A.D.-750 burials at Cerro Juan Díaz or elsewhere in central Panama was afforded a special burial treatment, unlike Sitio Conte where the wealthiest individuals were buried seated. Nicholas Saunders (this volume) has provided ethnographic evidence for a strong correlation between the concept of brilliance, epitomized by goldwork, *Spondylus* shell and felids, and ritual activities. In fact, it is not far-fetched to propose that the two individuals from feature 16 at Cerro Juan Díaz were an adult and his apprentice, symbolized by large and small species of cat (puma/jaguar—ocelot).

Graves at El Cafetal, La India-1, and Las Huacas are coeval or slightly earlier than features 1 and 16 at Cerro Juan Díaz. Their associated pottery suggests a date of cal A.D. 400–500 (Cooke et al. 2000). Raúl González (1971) recovered 38 skeletons at El Cafetal, 20 of which were aged in the field: ten adults, two adolescents, and eight children. Thirty-two individuals (84 percent) were accompanied by surviving mortuary arts, of which eight are metal.[37] Four of these objects were recovered in a single grave (#29) (Briggs 1989: 190; quoted on p. 59 of Briggs's publication as grave 26);[38] one of the two skeletons present in it seems to have worn a plaque with convergent spirals on its chest and a string of hammered gold beads around its neck. The relationship of the other four metal pieces in graves 25, 36, and 38 to the anatomies of individual skeletons is not clear. According to Briggs (1989: 61) "all shell, bone and metal mortuary arts [were] found only in adult burials [at El Cafetal]; none of these objects is present in the graves of adolescents or children."[39] That a non-hierarchical parameter such as occupation or position is being signaled by the presence of Initial Group goldwork in these mortuary features is underlined by Briggs's (1989: 59) observation that 13 of the 22 types of mortuary furnishings at El Cafetal were found in single occurrences.

The La India-1 burial ground was excavated by two amateurs, Russel Mitchell and J. F. Heidenreich (1965). They report finding twelve metal artifacts.[40] Since no excavation notes or bioanthropological details have been published, it is impossible to relate these artifacts to individuals, but some were found inside urns and one spiral nose-ring was found on top of a metate.[41]

[37] Four figurine pendants, a hammered plaque with convergent raised spirals, a set of beads (for a bracelet?), a twisted ring, and a thin plaque (Bray 1992: fig. 3.2a–e; Cooke and Bray 1985: fig. 13; Cooke et al. 2000: figs. 2e and 3b, g, k, and o; González 1971: figs. 10–12; Ichon 1980: fig. 56h–k).

[38] Briggs's (1989) system of grave numbering is used in the following descriptions for El Cafetal, La Cañaza El Indio, and Sitio Conte.

[39] Even so, Briggs's grave catalogue (1989: 190) lists the two skeletons from grave 29 as "adolescents."

[40] They found two disks, two spiral nose-rings, a conical nose-clip, and seven cast figurine pendants: a monocephalous bird with outstretched wings, a large bicephalous bird, a bell-eyed creature, a stylized anuran, and three figurine pendants representing conjoined vertebrates (Bray 1992: fig. 3.2; Cooke and Bray 1985: figs. 13–14; Cooke et al. 2000: fig. 3).

[41] The fact that at least one artifact (Cooke and Bray 1985: fig. 14) ended up in a German museum suggests that Mitchell and Heidenreich illegally sold this and other objects.

Perusal of Gladys Casimir de Brizuela's field notes from excavations at Las Huacas, on the shores of the Gulf of Montijo, Veraguas, indicate that metal items were found in three graves in which transitional Tonosí-Cubitá style pottery was deposited (Bray 1992: fig. 3.2f; Cooke and Bray 1985: fig. 13; Cooke et al. 2000: fig. 2f). Three of these, including two bird effigy pendants, were deposited on top of metates (Casimir de Brizuela n.d.).

Another site whose burials include Cubitá-style pottery is Playa Venado, located near Panama City (Lothrop 1964: fig. 18b,d). This site was explored mostly by amateurs from a local archaeological society who often forgot to mention gold finds in their reports. Hundreds of burials were found here, including 202 excavated by Lothrop in 1951 and 167 by Neville Harte who is probably the person responsible for selling most of the pieces from this site that are housed in U.S. museums (Lothrop 1954). One burial in a lidded urn is linked to Cerro Juan Díaz feature 16 by very similar *Spondylus* jewelry (cf. Bull 1961: fig. 2e–f and Cooke and Sánchez 1998: fig. 8). It contained the remains of a child reported as six years old who was probably buried with a single necklace of monkey and dog teeth, shell pendants and beads and a single gold spacer bead. Another Playa Venado burial investigated by Thelma Bull (1958) is described by her as belonging to a shaman because the robust adult male was buried with a pouch decorated with shell and gold beads. Dan Sander, Russel H. Mitchell, and R.G. Turner (1958b: pl. 4.3) found a miniature cast effigy pendant of a stylized quadruped and curly tail with adhering fragments of a woven fibrous material.

The other gold artifacts that have been reported from Playa Venado are much more spectacular. Many of them are beautiful single-piece, lost-wax castings whose relief gives the impression of filigree. They have been grouped by Bray (1992) into his Openwork Group.[42] Also present are a necklace of tubular and round beads (Lothrop 1956: fig. 2), a sub-conical noseclip similar to examples from early graves 1 and 32 at Sitio Conte (Bray 1992: fig. 3.7; Helms 1979: fig. 12b), large plaques with raised rims (Lothrop 1956: fig. 2), and a plaque with an embossed humanized animal figure (Lothrop 1956, fig. 2).

Sitio Conte

Because some of the pottery found at Playa Venado employs purple paint, which is unknown in the Cubitá-style, it is likely that some of the goldwork just mentioned belongs to the period cal A.D. 700–1050 during which four-color polychrome pottery of the Conte and Macaracas styles was manufactured around Parita Bay and the Gulf of Montijo. It is at this time that the relationship between goldwork and individuals in Panama becomes more complex. From now on, a few individuals are buried with very great numbers of metal ornaments and unusual quantities of beautifully crafted pieces, and also appear to be the

[42] They include two cast effigy pendants of frogs, a seahorse, a humanized animal figure with an antlered headdress, a sea creature with a human face and danglers, three conjoined animals, and a long-tailed creature (Emmerich 1965: fig. 108; Lothrop 1956; Lothrop, Oster, and Mahler 1957: cats. 263–268; Wardwell 1969: 112, fig. 4).

exclusive owners of certain categories of gold artifacts. The association between goldwork and ritual probably continued. But sites like Sitio Conte reflect a more materialistic trend as rich and powerful people use goldwork to symbolize political rather than (or in addition to) intellectual power. Accumulating, stealing, and showing off possessions add a new—exoteric—dimension to the meaning of metal.

After comparing artifact distribution by grave with contact period descriptions of the use of gold ornaments, Lothrop (1937: 64, 202) concluded that the richest interments at Sitio Conte belonged to paramount or supreme chiefs (*sacos* or *quevíes*), and the less opulent ones belonged to sub-chiefs (*cabras*). His readings also suggested to him that the categories of gold ornaments found in the largest graves corresponded to the funerary accoutrements and battle regalia of people whom the invading Spanish identified as first- and second-order community leaders (Lothrop 1937: 60). Ranking was evident, for example, at the oft-described funeral of París (also called Parita, Cutatará, or Antatará), whose desiccated body was rudely exposed by Gaspar de Espinosa lying on a long bier in July 1519 (Jopling 1994: 63–64; Lothrop 1937: 46). Espinosa recognized the dead cacique as the leader who had defeated Gonzalo de Badajoz four years earlier. His body was adorned thus: *head*, helmet; *neck*, four necklaces "like a gorget"; *arms*, cylindrical cuffs; *chest and back*, several items, including "patens" and disks; *waist*, belt with bells hanging from it; and *legs*, "gold armor" (greaves?). A woman's body lay at París's head and other women at his feet, all of whom sported undescribed gold ornaments. In two other burial bundles were the remains of two caciques who had succeeded París. They were also bedecked with gold, but not so "richly or attractively" (*ni tan rica ni apuestamente*). Captured chiefs from neighboring territories awaited execution; the mother of one of them (Pacara) had brought a basket of gold to buy her son back.

That gold ornaments were displayed in battle was illustrated three years prior to París's death when Espinosa's troops were confronted by a "captain" dressed in a cotton shirt decorated with disks, cuffs, and other items (Jopling 1994: 51).[43] In fact, wearing gold to battle seems to have been generalized behavior on the isthmus. In 1527, chief Pocoa came at the Spaniards of Natá at the head of 500 troops "with a great paten on his chest and spears in either hand" because, Fernández de Oviedo (1853: 118) tells us, "it was the custom in those parts for the chiefs and important men to bring to battle some gold jewel on their chests or head or arms in order to be known to their own men and also by their enemies."[44] The display aspect of all this gold is frequently underlined by Fernández de Oviedo (1853: 138), who commented that the Cueva of eastern Panama accompanied the glittering finery with feathered headdresses, drums, and shell trumpets: "most of all it is in war that they try to look like gentlemen and go out dressed as best they can."[45] Gold was

[43] "Vino un capitán con ellos armado con muchas patenas y armaduras de oro y puñetes puestos sobre una aljubeta de algodón que traía vestida." (A captain came up with them covered with disks and sheets of gold and bracelets over a short-sleeved cotton jacket that he was wearing.)

[44] "Es costumbre en aquellas partes que los caçiques é hombres principales traygan en la batalla alguna joya de oro en los pechos ó en la cabeza ó en los braços, para ser señalados é conosçidos entre los suyos é aún entre sus enemigos."

[45] "E de ninguna manera como en la guerra se presçian de paresçer gentiles hombres é yr lo mas bien aderesçados quellos pueden."

sometimes used to decorate weapons: Bea, a chieftain who lived near Santa María la Antigua, owned a club embellished with gold (Oviedo 1853: 73).[46] Emmerich (1977: 95–96) proposes that gold disks were burnished to a high gloss in order to catch and reflect as much light as possible in order to identify leaders in battle (Lothrop, Foster and Mahler 1957: 267). So many gold artifacts passed through Emmerich's hands that it would be unwise to dismiss his remarks (1977: 110) that some breastplates found in Chiriquí and Veraguas had been torn by spear points and that a gold plaque from a site at La Peña (Veraguas) had been intentionally "killed."

Briggs's (1989) analysis of all the Sitio Conte interments determined that certain metal artifact categories tended to be confined to the top-ranking clusters of graves (clusters 1–3 out of a total of 10). These categories included disks, plaques, pendants, greaves, cuffs, and helmets.[47] Lothrop (1937: 6) intuitively arrived at a similar conclusion. Briggs (1989: 138) concludes therefore that the placement of mortuary arts reflected an "additive" pattern of status recognition: the more important the individual, the more objects and categories of artifacts he possessed. This was also apparent to Lothrop (1937: 61, 115), who notes that the numbers and varieties of gold artifacts were related to the size, depth, and numbers of interments in graves classified into three types: large, intermediate, and small.

Lothrop (1937: 64) considers that six or seven large graves were the resting places of the highest-ranked individuals: 1, perhaps 2, 5, 6, 24, 26, and 32B. Grave 74 (Mason's original grave 11) also fits into this category. Grave 1 is a particularly useful example of gold display, because it neither contained funeral objects looted from adjacent burials nor had been disturbed by later burials (Lothrop 1937: 210). The central figure (skeleton 1) was an old man with decayed teeth. Lothrop believes that his corpse was initially buried in a seated position. His mortuary accoutrements included 4 bead necklaces, a cuff on each arm, 10 noserings or -clips, 7 figurine pendants, and a single embossed plaque. A second adult male was buried in the same grave with fewer artifact categories, among them 10 figurine pendants, 3 gilded disks, and 3 carved manatee ribs, which must have been obtained in pristine form from the Caribbean watershed. This individual may have worn a shirt, which reached to the thighs; if so, to judge from Lothrop's (1937) figure 33, it was decorated with perforated dog canines and beads. It is likely that the tubular variety of "bone" beads are not bone at all, but the same kind of *Spondylus* found in feature 1 at Cerro Juan Díaz. Lothrop (1937: 127, 252) provides field evidence for circular plaques having been sewn onto garments or used in pairs, with one being worn on the chest and the other on the back.

The principal occupant of grave 5 (skeleton 15) was also an old man, whose body was probably laid out on a seat underneath a bark cloth canopy or some similar kind of shelter (Lothrop 1937: 230). It had been "bundled up in layers of mantles after the fashion of [cacique] Parita for the soil around him showed signs of carbonized decay." This individual

[46] "Bea con una macana guarnesçida de oro." This is the same chieftain who poured molten gold down Spanish captives' throats, shouting "Chica oro" ("Eat gold"), thus inspiring Benzoni's (1857) cartoons.

[47] *Plaques* in Briggs's (1989: figs. 10–12, 26) terminology are large embossed disks with figurative designs; *disks* are embossed with geometric designs. Lothrop usually called embossed and plain circular objects disks, but he also uses the term plaques.

wore cuffs and greaves and possessed a large embossed paten. He was the only individual found at Sitio Conte (and the only one professionally excavated anywhere in Panama) to have worn a gold helmet like the one owned by cacique París (Lothrop 1937: figs. 107–108).[48] It was embossed with scenes that depict a prominent icon in Gran Coclé: the standing anthropomorphic saurian (Cooke 1998b). Lothrop (1937:133–134) compared this helmeted individual to seventeenth-century Kuna chieftain known as "Golden-Cap" among the buccaneers and to a Kuna "emperor" who wore a "tiger"-teeth belt and a hat of pure gold, with a ring and a plate like a cockleshell hanging from his nasal septum. In 1528, a Veraguan chieftain handed over his golden crown to a Spanish official from Natá as a token of submission (Jopling 1994: 175).

The principal occupant of Sitio Conte's grave 26 was also found seated. This individual, probably an adult (Briggs 1989: 78), owned two pairs of cuffs or greaves,[49] six pairs of ear rods with gold parts, and three patens decorated with the standing anthropomorphic saurian. More than 300 gold fittings for ear rods were found in Mason's (1941; 1942) grave 74, which contained more than 7,000 mortuary objects (Briggs 1989: 110), and was the final resting place for 23 individuals (Briggs 1989: 199–203; Mason 1941: 263). Associations between artifacts and individuals are unclear. The 88 bells found in this grave remind us of the fact that cacique París was buried with a golden belt decorated with bells. (Although Lothrop [1937:46] remarked that belts were the only item of París's attire that were missing at Sitio Conte, these could have been made out of gold beads.) Briggs (1989: 111) believes that two individuals (skeletons 15 and 16) in grave 74 had alpha status; Mason's field notes (Briggs 1989: 111) indicate that 26 repoussé plaques were associated with them. The famous figurine pendant with an emerald set in its back (Hearne and Shearer 1992: 92, pl. 209) was buried, according to Mason, "on the principal figure above large gold plaques" (Briggs 1989: 111).

Figurine pendants were not mentioned by Spanish captain Espinosa in his description of París's burial. At Sitio Conte they were found, by our reckoning, in ten graves out of the 35 that contained metal artifacts.[50] A few of these, such as the fine crocodiles from graves 15 and 56, are from intermediate graves (Lothrop 1937: fig. 155b–c). Most figurine pendants, however, and arguably the most spectacular ones that stand out for their technical excellence and iconographic vibrancy, are clustered in the richest graves, such as the bat-shaped mirror frame from grave 5 (Lothrop 1937: fig. 71), the castings for gem stones from graves

[48] Skeleton 3 of grave 32 at Sitio Conte was found with a conical gold ornament on his head. Perhaps these kinds of ornaments were sewn onto conical bark cloth caps of a kind that figures prominently in the statuary of western Panama (Fig. 7a–e) and was, until recently, worn by Guaymí native peoples in Panama. Anna Roosevelt (1979: fig. 18) illustrates an embossed gold helmet that is reported to have been found at Parita. It is likely that this was excavated by Philip Dade at Finca Juan Calderón (He-4) (Biese 1967), which may well have been one of cacique Parita's principal villages (Cooke 1993). Lothrop (1937: 129, 286) proposes that small gold disks and a comma-shaped plaque found near the head of skeleton 6 in grave 32C may have been ornamentation for a headdress.

[49] Lothrop (1937: 162) found gold tubes encircling the forearms of the deceased in graves 1, 5, and 32, but did not record such artifacts on legs.

[50] These are: graves 1, 3, 5, 6, 15, 26, 32, 74, 88, and 95.

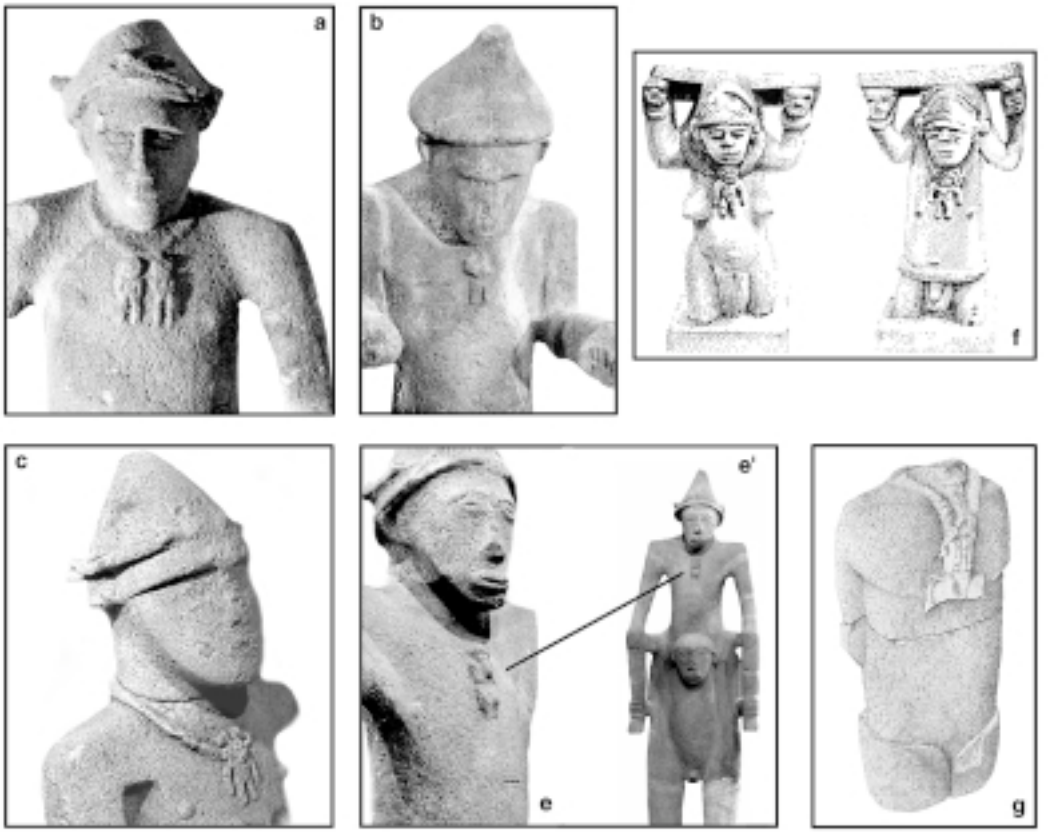

Fig. 7 Stone statues from Panama, which wear figurines suspended by a cord from the neck (these probably represent cast gold figurine pendants). (a–d): human statues from Barriles, Chiriquí, that wear conical hats (perhaps representing bark cloth) (photos by Marcos Guerra); (e) the legs of a giant metate or grinding stone from Barriles (after Linares, Sheets, and Rosenthal 1975: fig. 5c); (f) headless human torso from El Caño, Coclé (drawing by Arcadio Rodaniche).

26 and 74 (Hearne and Sharer 1992: pl. 20; Lothrop 1937: fig. 181), and overlays and settings for whale tooth ivory and resin (Lothrop 1937: figs. 160,167), of which a great many were found in grave 74 (Hearne and Sharer 1992: 22–28). It would seem, then, that Briggs's (1989) criterion of "added value" and Helms's (1993) criterion of crafting excellence applied to cast representations of human and animal forms: the largest number of figurine pendants and the most spectacular ones were buried with the wealthiest individuals.

Independent confirmation that figurines were worn by important males is provided by the statuary from the Chiriquí site of Barriles where several figures, all but one male, sport small figurines hanging by strings from their necks (Fig. 7a–e). Although one cannot be absolutely certain that the sculpted images are meant to represent metal rather than resin, wood, or stone, the figurine shown on one Barriles statue (Fig. 7d) has its arms raised to its mouth in the manner of a metal figurine pendant illustrated by Lothrop (1937: fig.

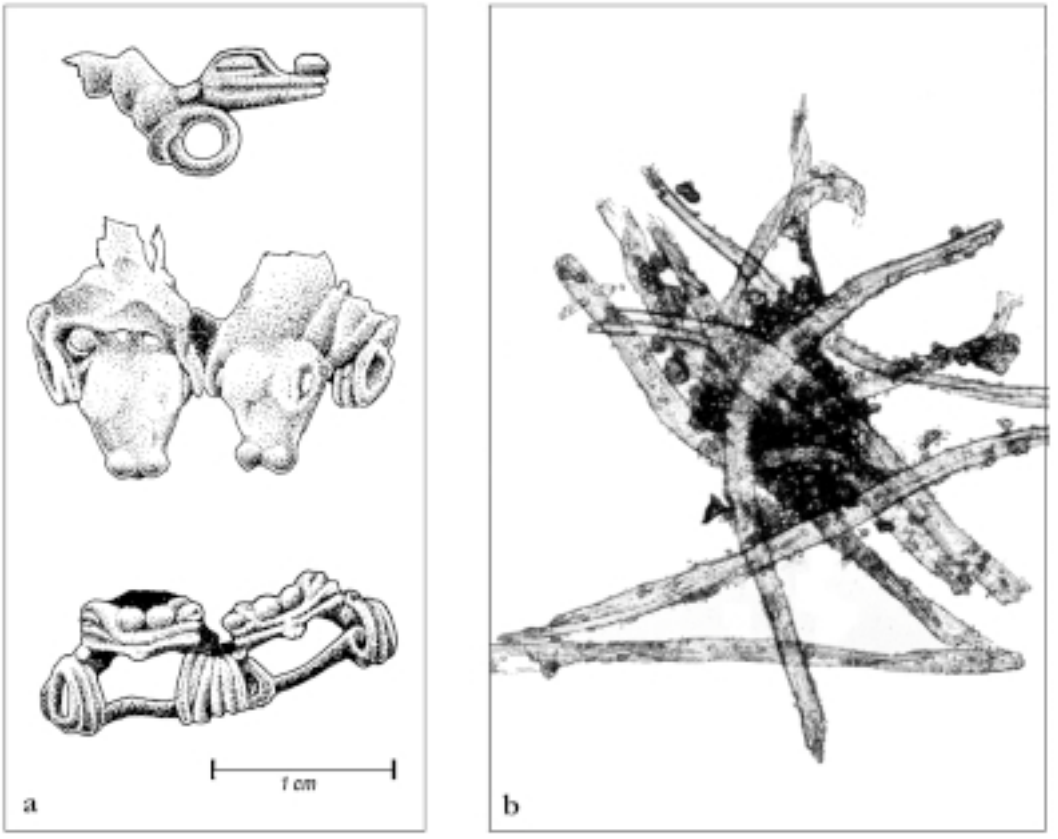

Fig. 8 Evidence of figurines being worn suspended by string: (a) broken cast effigy pendant depicting a bicephalous crocodilian, Cerro Juan Díaz, Operation 3, Feature 115 (drawing by L. A. Sánchez); (b) twisted cotton fibers attached to the suspension rings (100 x; fiber analysis and photo by Emilia Cortés, Metropolitan Museum of Art, New York).

148a) from Sitio Conte. Significantly, the seated figures on the double statues wear figurines, while those who carry them on their shoulders do not.

Another sculpture of a male figure that sports a figurine (a frog with spatulate feet) was found at the El Caño site near Sitio Conte (Fig. 7f). As with the Barriles statues, its age has not been estimated. A figurine pendant found at Cerro Juan Díaz (Cooke and Sánchez 1998) in a feature cross-referenced by fill pottery to cal A.D. 750–1050 had fragments of twisted cotton string adhering to the suspension rings, suggesting that it was worn around the neck (Fig. 8).

Sex, age, and power. Briggs (1989: 73) estimated that 94 percent of the 93 skeletons found at Sitio Conte that could be aged were adult. Of these, 77 percent were males and 23 percent females. The limited information about the age and sex of the richest people at Sitio Conte suggests that they were adult males. The only seated principal figures in the large graves whose sex and age could be ascertained in the field were an old male in grave

1 and another in grave 5. In grave 6, skeleton 2, probably the principal occupant, was a young adult male; the other two skeletons in the same grave were recorded as an "adult" and "old" male (Lothrop 1937: 62). Grave 32C was classified by Lothrop (1937: 61, 286) as small or intermediate, but it was made in the same feature as the very richly endowed 32B, and the adult male buried in it was probably a member of the same social group (1937: 287). He was the owner of some 300 beads, a bell, two cuffs, two embossed plaques, three nose ornaments, eight rings, a whistle figurine, two plain rings, and eight overlays for use on perishable materials.

París's funeral indicates that women, as well as men, used gold ornaments. This historically documented case alludes to high-ranking ladies, but others do not. Fernández de Oviedo (1853: 126) says that it was a general custom around the shores of the Gulf of Urabá for ladies to use gold bars to support their breasts.[51] The *quintos de oro* for Santa María la Antigua and Panama record gold ornaments being in the possession of women servants or companions (Jopling 1994: 83–102).[52]

An elderly woman in grave 23 at Sitio Conte sported a bracelet of 55 beads (Lothrop 1937: 260), another old lady in grave 26 wore two ear rods with gold fittings, and an adult female in grave 94 owned a chisel. These are the only instances in which specific artifacts can be incontrovertibly associated with adult women at Sitio Conte. In the second mortuary unit at Cerro Juan Díaz, where painted pottery equates stylistically with late Sitio Conte graves 5, 6, and 26 (Cooke et al. 2000), one adult woman (in feature 51, individual 99) was buried with a gold bead, and another (feature 51, individual 55) was buried with a bracelet of 14 very small hammered beads. In a burial urn containing seven adults, of which the only sexed individuals are female, a thin overlay for a bead of another material was the only gold artifact (Díaz n.d.).

Lothrop (1937: 24) encountered only one skeleton of a baby at Sitio Conte. Some skeletons are listed as adolescents in the Harvard and Pennsylvania catalogues, but, as with the women, few can be associated with gold items. Mason's grave 86 included an individual listed as "adolescent or adult" who was accompanied by seven disks. Another identified as a female adolescent or child in grave 93 was buried with four decomposed disks and a sheet of gold.

[51] "Esta invención destas barras de oro para levantar las tetas es primor é usança del golpho de Urabá." (This invention of these bars to raise the breasts is a craft and custom of the Gulf of Urabá.)

[52] The following entries describe specific artifacts worn by women: 11 March, 1520—un moquillo y una limeta de oro labrado . . . de una india suya (a nose ornament and a bottle shaped object of worked gold . . . from an Indian woman of his); 16 March, 1520—dos chapillas y seis ramitillos de oro labrado . . . de unas indias suyas (two small plaques and six sprigs of worked gold . . . from some Indian women of his); 22 November 1520—ciertos canutillos de oro labrado de los indios … que los había hallado en poder de una india suya (a few small tubes of gold worked by the Indians…which he had found in the possession of one of his Indian women); 18 December, 1520—ciertos canutos y cuentas de oro labrado de los indios que juró los tenían unas indias (a few tubes and beads of gold worked by the Indians, which he swore that one of his Indian women had); 9 September, 1523—ciertos canutos y cuentas de oro y una patenilla . . . de dos indias suyas (a few tubes and beads of gold and a small paten . . . from two of his Indian women); 10 March, 1526—canutos y cuentas . . . haberselo dado una india suya (tubes and beads . . . which an Indian woman gave him) (Jopling 1994: 83–102).

The Sitio Conte data provide ample confirmation of the contact period documentary record that the most important people in this part of Pre-Columbian Panama were, by about cal A.D. 700, given special burial treatment (desiccated by heat, seated, and protected by a roofed structure). The currently available skeleton sample suggests that they were always adult males. They were also, it would seem, the exclusive owners of special gold artifacts for the head, chest, ears, arms, and legs. In several instances, archaeologists found these artifacts on the appropriate part of the deceased's anatomy, indicating that the cadaver had been buried wearing ornaments as the chronicles suggest.

Gold and regional power. All scholars who have commented on Sitio Conte agree that it was a special site. Lothrop (1937: 202) believes that it was "inhabited by a *queví* or supreme chief, his wives and intermediate family, his personal retainers and his slaves." This entourage would have amounted, he believes, to some 200 persons, although during ceremonies the population would have been augmented by people from neighboring communities. Briggs (1989: 64) prefers the term *necropolis*, which implies that burial was the site's primary function. It may have been, although as Lothrop thought, it is likely to be a mortuary precinct in a larger site that included neighboring Cerro Cerrezuela and El Caño. If (as most scholars believe) Panama was divided into many small territories ensconced in river valleys and intermontane valleys, each with its village or villages for the chief and his entourage (Helms 1979; Linares 1977), there should be as many Sitio Contes in the archaeological record as there are contact period chiefdoms of note. This does not appear to be the case.

Nine archaeological sites in central Panama have provided contextualized metal artifacts associated with the same kinds of polychrome pottery that were recovered by Lothrop and Mason at Sitio Conte, whose time span, as we have seen, is currently estimated to have been cal A.D. 750–950: Cerro Juan Díaz, El Caño, El Indio, Finca Juan Calderón, La Cañaza, Las Huacas, Miraflores (Cho-3), Rancho Sancho, and Playa Venado (Table 1). None of these sites (with the possible exception of Playa Venado) vies with Sitio Conte with regard to the complexity and wealth of grave features or the quantity and quality of the mortuary arts. Briggs (1989: 153) concluded that the distribution of mortuary arts at La Cañaza and in the second cemetery at El Indio (II), dated to between cal A.D. 750 and 1050, had more in common with those of the earlier cemetery at El Indio (I) (the one with the late Tonosí-style pottery) than with coeval Sitio Conte. The inhabitant of grave 10 at El Indio, described as an "adolescent," was found with a conical noseclip and a bead (Cooke et al. 2000: fig. 3m; Ichon 1975: fig. 35a; Ichon 1980: fig. 91b). Grave 32 contained an "adolescent" and a "child" accompanied by three figurine pendants.[53]

At El Caño, Lleras and Barillas (1980) reported sixteen burials of adults and adolescents, only one of which was accompanied by gold (a figurine pendant). The second mortuary horizon at Cerro Juan Díaz is also different from Sitio Conte with regard to the age

[53] A human-faced quadruped (Cooke et al. 2000: fig. 3p; Ichon 1975: fig. 35d; Ichon 1980: fig. 91c), two conjoined frogs (Cooke et al. 2000: fig. 3e; Ichon 1975: fig. 35d; Ichon 1980: fig. 91b), and a single frog pendant (Ichon 1975: 84).

and sex composition of the human remains and the nature and distribution of artifacts. Fifty-one skeletons out of a sample of 115 correspond to pre-adults and 64 to adults, of which 35 could be sexed with confidence (26 females and 9 males). Only four features contained gold objects, and these are simple and few in number: hammered beads, overlays for beads, and a simple chisel-like tool (Cooke et al. 2000: fig. 11d, g–o; Díaz n.d.). At Miraflores (Cho-3), on the lower course of the Bayano River, in a region which, by cal A.D. 700, was culturally distinct from the other sites listed in Table 1, the size of three rock-cut tombs and the great numbers of ceramic vessels contained in them suggest that important people were buried there. Only nine gold artifacts, however, were recovered: 3 hammered noserings and 6 cast open-work beads (Cooke 1976a; Cooke 1998a: fig. 10.5n; Cooke et al. 2000: fig. 2b–d).

Two interpretations spring to mind. The most obvious one is that Sitio Conte appears anomalous because regional sampling has been deficient. Professional archaeologists have not worked at similar sites or, if they have, have not found the most important burials (as in the case of Finca Juan Calderón [He-4] where looters found the richest graves). Thus they have not been able to determine whether special mortuary precincts like Sitio Conte are present in each political unit near its demographic and cultural hub (which need not have remained topographically constant through time).

The other alternative is that archaeologists are underestimating the social catchment served by sites like Sitio Conte, because they adhere too rigidly to the idea that *cacicazgos* similar in size and location to those that were described by the sixteenth-century Spanish were the primary cultural and demographic units in Pre-Columbian Panama (Cooke et al. 2000). It is feasible that the people whose remains were buried at Sitio Conte came from catchments larger than the territories described by Espinosa, Andagoya, and Fernández de Oviedo as being under the sway of individual chieftains, such as Natá, Escoria, or París. Perhaps Sitio Conte, together with the contiguous sites of Cerro Cerrezuela and El Caño, comprised a special ritual center for much of the area over which the Gran Coclé semiotic tradition prevailed to which males with appropriate credentials were taken for dry season burials.[54]

[54] When Lothrop excavated at Sitio Conte, he proposed that the site underwent a period of decline just prior to Spanish conquest and suggested that it was perhaps displaced by neighboring Natá as the territory's dominant settlement. Lothrop's opinion was based on the fact that the most recent burials he investigated were much more simple and less rich than the earlier ones. Since pottery types that were made later than cal A.D. 1050 are abundant in the Sitio Conte refuse (Ladd 1957; Cooke n.d.a.) Lothrop and Mason may not have excavated where later rich burials were made. On the other hand, there is little in the archaeological record to coroborate Natá's preeminence at contact. Some burials in mounds were reported here by McGimsey (1958; see also Cooke n.d.a.), but their mortuary arts were simple. Interments found in and underneath four burial mounds at El Caño, midway between Natá and Sitio Conte, did contain metal items including a beautiful cast effigy pendant of a double-headed saurian (Bray 1992: fig. 3.12) although, as we recently pointed out (Cooke et al. 2000) the submound burials, in which this particular artifact was found, could be coeval with the latest Sitio Conte graves. Three urn burials at the surface of one of the mounds contained three miniature cast effigy pendants, a small disk, and European glass beads (Cooke 1976b; Cooke et al. 2000). These data vouch for the use of gold artifacts at or immediately after contact, but tell us nothing about the wealth of the chief of Natá. Since Spanish documents indicate that the location of the chief's principal village changed from time to time, the town of Natá may simply have been the locale where this territory's chief happened to be living in 1516.

That other areas of "Gran Coclé" harbored burial grounds for people as rich as those who were buried at Sitio Conte is suggested, not only by Finca Juan Calderón to the south and Playa Venado to the east, but also by unprovenienced or uncontextualized gold artifacts from Veraguas and the Azuero Peninsula that inundated museum and private collections in the U.S. and Europe since World War II. Although Lothrop's (1950: fig. 117c,d) volume on the archaeology of southern Veraguas illustrates only two embossed circular plaques with conical repoussé, Emmerich (1977: 109) commented that "circular breastplates of hammered gold" were "among the most frequently encountered forms of ornaments in Veraguas." The example he illustrates (Emmerich 1977: fig. 145) is strikingly similar to a broken disk that Cooke excavated from a recently disturbed fill at Bajo Chitra (CL-4), a community that he has equated on ethnohistorical and archaeological grounds with the principal village of the contact period chieftain Esquegua (Cooke 1993; Cooke et al. 2000: fig. 15; see also Galerie Mermoz 1986: no. 40; Lothrop, Foster and Mahler 1957: nos. 251–254; Morison and Obregón 1964: 193). Since the conical embossments of these plates were not recorded at Sitio Conte, but occurred frequently in Colombian graves, Lothrop (1950: 73) argues that they were imports thence. Their very absence at Sitio Conte, however, their frequency in private collections in Panama, and the Bajo Chitra occurrence, make it likely that they were produced on the isthmus during the last four centuries before contact when a trend towards the geometric abstraction of designs to the detriment of figurative decoration is apparent on polychrome pottery (Cooke 1998; Labbé 1995; Sánchez 2000). Probably, the 46 plates collected by Columbus on his 1502 trip down the Veragua coast were similar.

One archaeological site in Veraguas—La Peña—has produced evidence for in situ goldwork in a funerary feature whose human remains had decomposed. It is, however, second-hand information: Russel Mitchell (1962) asked a looter to tell him how gold pieces were arranged in a large chamber tomb with a stone-capped vault. Its mortuary arts suggest a late Pre-Columbian date (cal A.D. 1300–1520). On the floor of the grave were four undecorated circular gold plates about five inches in diameter and 100 grams in weight, an embossed plaque representing a stylized bird, and a fine cast figurine pendant (Fig. 9a) that depicts two animal-headed figures with human bodies that stand upright and brandish *macanas* or sword-clubs (Mitchell 1962). It is a funerary offering that pales before cluster 1 graves at Sitio Conte, but no doubt is worthy of a middle order male.

My companion the warrior. In the Sitio Conte graves, a twinned figurine conceptually similar to Mitchell's from La Peña was found, predictably associated with the aged adult male (skeleton 15) who was wrapped in textiles (like the chief París was) and had been endowed with other alpha articles: embossed plaques, whale teeth, cuffs, and greaves (Fig. 9b; Lothrop 1937: fig. 150). The twins are overtly war-like: they brandish sword-clubs and what look like bundles of spears. Human heads dangle from braided cords. Lothrop's interpretation (1937: 166) that they are "victorious warriors returning with the heads of slain enemies" might not be fashionable but is probably right: human heads figure prominently on stone statuary of western Panama and Costa Rica, including Barriles (Fig. 7b, e). Columbus's men saw "300 human skulls" near the quibian's house in Veragua, and taking

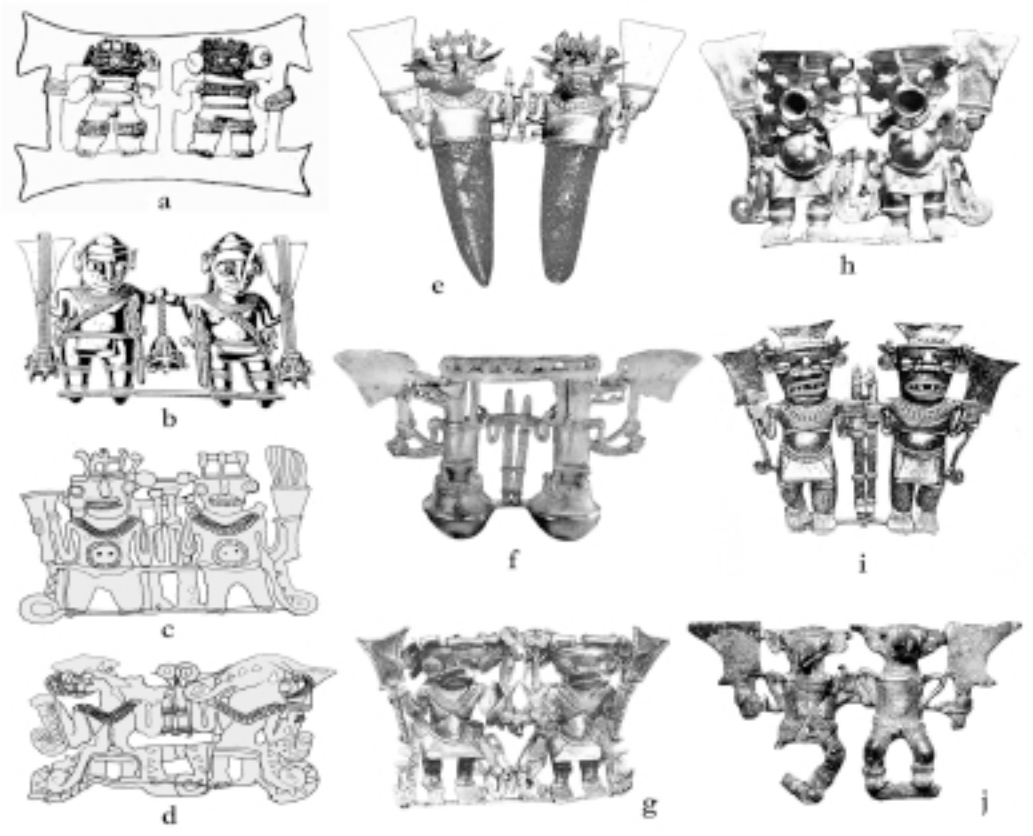

Fig. 9 Cast effigy pendants from Panama depicting human or animal-faced human figures (generally twinned) with weaponry: (a) La Peña, Veraguas (after Mitchell 1962: fig. 7); (b) Sitio Conte, Coclé (after Lothrop 1937: fig. 150); (c) Finca Juan Calderón, Herrera (after Biese 1967: 202); (d) Finca Juan Calderón, Herrera (after Biese 1967: 207); (e) Parita, Brooklyn Museum; (f) Parita (after Galerie Mermoz 1986: no. 26); (g) Parita, private collection, unprovenienced, probably Finca Juan Calderón (after Koninklijke Musea, no. 263); (h) Parita, probably from Finca Juan Calderón, Herrera (after Emmerich 1965: 22); (i) Chiriquí (after Easby and Scott 1970: no. 227); (j) unknown provenience, Museo de Antropología, *Reina Torres de Araúz*, Panama City (photo by Carl Hansen).

enemies' heads remained a common custom among non-Hispanicized men in western Panama until the end of the eighteenth century (Castillero Calvo 1995: 408).

Lothrop thought that the unique (for Sitio Conte) twin pendant was of foreign origin. Great numbers have since appeared on the international art market, many of them reported as being from "Parita." Technologically and stylistically they form a coherent group, which is why Bray (1992) included them in his Parita Assemblage. It is likely that most (if not all) of these kinds of figurines came from Finca Juan Calderón, where Philip Dade, a looter, found 30 or so gold ornaments in 1962 in a deep (20 feet?) burial under an artificial mound and continued working there until 1967 (Biese 1967; Bray, personal communication, 2000, based on Biese's notes). Whether a charcoal date of 415 $\pm$ 90 BP (cal A.D. 1395–

1660) was recovered by Dade himself in this feature remains unclear (Bray, personal communication, 2000), but the polychrome mortuary ceramics from this site belong to late Macaracas, "Parita," and "El Hatillo" styles that were made between cal A.D. 1050 and contact. (Bull 1965; Ladd 1964). These burial features are, therefore, more recent than those of Sitio Conte.

The twins depicted on Gran Coclé metal figurines are sometimes entirely human (Fig. 9b, h) and more usually have human bodies and animal heads—saurians (Fig. 9a,d, f), birds (Fig. 9g, j) and bats (Fig. 9e, i). They always wear beaded necklaces and sometimes beaded belts and leggings. Some sport loincloths. Many of them brandish broad-bladed *macanas* (or sword-clubs), which in some cases (Fig. 9c, e) are made of manatee bone inserts, and atlatls (or spear-throwers) with terminal hooks (Fig. 9 e, f, i) (Cooke and Bray 1985: fig. 7). The male sex of one figure (Fig. 9a, left) is apparent; his companion is presumably female. On one example (Fig. 9b), a parrot-like bird dangles from a cord at hip level; on another (Fig. 9g) the figures carry birds in one hand. Two twins (Fig. 9h) appear to be blowing trumpets.

Humanized standing figures embossed on gold plaques, cuffs, and a helmet from Sitio Conte exhibit similar sartorial and zoomorphic features. Sometimes they are presented in pairs (Hearne and Sharer 1992: pls. 8–10). Their belts often end in heads of other creatures. The Sitio Conte collection includes a figure, presented frontally or in profile (Hearne and Sharer 1992: pls. 1, 2, 9), which Helms (1979: 105) interprets as an iguanid lizard or spectacled bear (Helms 1995: 69, fig. 80) and Lothrop (1937: 125,142) and Cooke (1998b) as a crocodilian, and a bird with a long, hooked beak (Hearne and Sharer 1992: pls. 8,10). One superb example (Helms and Sharer 1992: pl.1) shows the crocodilian morph (sensu Cooke 1998b) brandishing long objects (batons? atlatls?) and sporting long ear rods, which according to Briggs (1989) are associated with the richest graves at Sitio Conte and can be interpreted as symbols of high status (see also Cooke and Bray 1985: fig. 9c, whose crocodilian teeth stand out).

It is not true, however, that these standing human-like animals are exclusively associated with the wealthiest people in mortuary contexts. In the second horizon of burials at Cerro Juan Díaz (II, Operations 3 and 4), which were not those of rich or high class personages and contained a much higher proportion of women and children than at Sitio Conte, the only figurative icons present on polychrome plates and jars among the mortuary artifacts are the same humanized saurian and hook-beaked bird that appear on the embossed gold plaques (Cooke et al. 2000: fig. 6). The fact that rich and poor are associated with these anthropomorphic images suggests that they are relaying information about cultural and social affiliation. It is clear that the "Parita Assemblage" figurines were locally made (the double crocodilian figurine, Fig. 9d, was deposited unfinished in the grave [Biese 1967]). Therefore it is logical that their textual information relates to the history and culture of the social group that made and wore them. In her most recent interpretation of Sitio Conte iconography, Helms (2000: figs. 5.9, 5.11) proposes that some frontally depicted images of the standing crocodilian figure represent "hunter-heroes." That they had this type of specific mythological significance seems likely: in other words, they are human-animal

participants in a supernatural world that replicates the earthly human world; they do the same things as humans; when they are poor, they dress poor, and when they are rich and powerful, they behave like their human counterparts: embellishing themselves for ceremony or for battle with headdresses, ear ornaments, necklaces, belts, and leggings; fighting with palm wood spears thrown by atlatls; making as much noise and display as possible in battle; helping earthly chieftains like Pocoa defeat the enemy and, if victorious, parade enemies' heads back at the village. In other words, the people who made them were thoroughly immersed in the details of local cultural traditions and the people who wore them did so because they reflected the behavior that was expected of powerful men. Who's to say that the front-line warriors, bedecked with gold, thumping drums and playing shell trumpets, didn't take the crocodile or eagle twins along with them to help them win battles? After a skirmish, gold ornaments may well have been stowed away in baskets—as the invading Spanish describe—accompanied by ceremonies witnessed by a few people and, therefore, esoteric. Their display, however, was exoteric, designed to identify the owner as a very important person and to advertise his prowess, military skill, and lineage.

Conclusions

Who crafted gold artifacts in Panama?

Ilean Isaza has added the technique of welding thin sheets of different copper-gold ratios to those already inventoried for the pre-Sitio Conte and pre-cal A.D. 750 ornaments that Bray assigned to his Initial Group. Although her discovery of a platinoid mineral, osmium, in the presumed tail of a spread-eagled bird, evokes a coastal Colombian or Ecuadorian origin, platinum is present in Panamanian ore bodies. The stylistic connections of the Initial Group in Lower Central America to the Sinú, Urabá, and Quimbaya metallurgical regions are clear (Bray 1992; Falchetti 1993; 1994; Uribe 1988), but much more chronological and geographic detail will be required, especially from Darién and San Blas (Bray 1982; 1996), before we can discard one unlikely, but still feasible path—a direct coastal route from La Tolita to the Azuero Peninsula (cf. Helms 1979; Ichon 1980)—in favor of other, ostensibly more reasonable ones (overland through the Atrato and Tuyra basins or down the island-studded eastern Caribbean). There is nothing in the current archaeological record (and probably never will be) that allows for a distinction between "Colombian" or "Ecuadorian" artificers being "contracted" to make Initial Group pieces, Panamanian artisans journeying outside the isthmus to learn the trade, or the intellectually more satisfying thesis of the first isthmian ornaments being acquired through barter, heirlooming, gifting, or other universal exchange behaviors (Graham 1993). Identifying the degree to which icons crafted in gold were already present on other media before metallurgy's introduction is a chicken-and-egg problem that is currently unsolvable. For the record, the crocodilians, birds, amphibians, and serpentiform beasts that later predominate in metal and clay in Gran Coclé and beyond are tentatively identifiable in the first Gran Coclé polychrome style, La Mula, dated to between cal B.C. 200 and A.D. 250 at the 2 Σ range (Fig. 2). So far, this

beautifully made pottery has not been found with metal ornaments, although the tomb that provided Isaza the materials for her physical analyses is C-14 dated to the end of this period. Gold ornaments from Lower Central America may be older than is thought.

Considerable detail about the distribution, abundance, and exploitation of gold, copper, and silver ores in Panama and about Spanish and Republican mining is provided here to dispel the ideas that mineral deposits were too unproductive in Panama to support substantial artifact production and that copper was absent. There are some large cupriferous deposits in Panama, some with superficial native copper. Contrary to Sauer's and, to a lesser degree, Helms's ideas, Spanish efforts to capitalize on Panama's mineral resources were often frustrated not because vein-mining or placer operations were intrinsically unproductive, but because rapid postcontact depopulation led early on to labor shortages in a labor-intensive operation; keeping large numbers of African slaves was very expensive and inimical to the demands of a transit economy; and resurgent native resistence, epitomized by Kuna, Coclé, Guaymí, and, later, Mískito attacks, made mining dangerous. This information has been overlooked in the anthropological literature.

Accepting or rejecting contact period references to crafting centers at two towns (those of Cori and Comogre), to which ores obtained in outlying areas were brought, is a subjective matter: either one believes it or one does not. The exploded mold (Fig. 5a) is proof that gold ornaments were cast in Panama. Some technological analyses allude to local variations of regional technologies (Howe 1986). How can seventeenth-century references to casting animal forms along the Caribbean watershed of Veragua reflect anything but the postcontact continuation of an autochthonous tradition? By the end of the sixteenth century two-thirds of Panama continued under or had reverted to native control (Castillero Calvo 1995). The frontier between Hispanic and non-Hispanic spheres remained solid, if geographically variable, until after Panama's independence from Spain. Historical linguistics and genetics affirm the long-term permanence of speakers of Chibchan languages in this area (summarized in Ranere and Cooke 1996). Although the history and nature of Pre-Columbian settlement in Caribbean Panama are imperfectly known, recent investigations spear-headed by Griggs have mitigated notions of late occupation and cultural simplicity. Cooke (1993) and Griggs (n.d.a.) have located several archaeological sites in the central cordillera and in the Belén, Petaquilla, and Coclé del Norte drainages that suggest the prolongation of precontact settlement and some ritual patterns into the early seventeenth century. Some of Griggs's sites were probably occupied by the Coclé people of Spanish documents (see note 27).

Bray's (1996: 308) model for the introduction and development of metallurgy—"the most uncontroversial example . . . of unidirectional diffusion in the New World"—into the Maya region probably mirrors the isthmian situation. During the Classic Period, the Maya imported most gold objects from further south, as Bray has constantly pointed out, although not necessarily as far south as Panama. Gold and copper deposits in highland Guatemala and the Maya mountains of Belize stimulated a local industry, which by the Late Post-Classic seems to have overtaken imported products. Increasing demand for metal re-

suscitated interest in the isthmus, but by then ores, rather than crafted objects, were the raison d'etre of trading journeys and settlements.

The period of manufacture of the Initial Group ornaments in Panama (cal A.D. 170–750) corresponded to the Classic Period situation further north. The few artifacts found in graves—usually small ornaments, often in animal form—are stylistically very similar to ornaments found in northern Colombia. No hammered plaques with a high gold content have been found in contexts that are demonstrably older than Sitio Conte's graves.[55] There is no proof that gold ornaments were being made in Panama at this time although it is important to keep an open mind about the relationship between the provenience or ores and manufacturing centers, as Isaza's study indicates.

Much greater numbers of gold objects are found in some graves dating to Sitio Conte's apogee and thereafter, than in pre-cal A.D. 750 burials. Hammered artifacts become more frequent, some of them very large and with a high gold content. Figurine pendants become larger, thematically more intricate and frequently represent human or humanized animals. It was clear to Lothrop, as it has been to some later scholars (Cooke 1993; 1998b; Cooke and Bray 1985; Cooke and Ranere 1992b; Linares 1977) that those metal artifacts that exhibit iconographic correspondences with motifs depicted on bone, resin, stone, and clay represent a discrete semiotic system with its own "texts," myths, history, and personalities, which can be expected to have been different from those of neighboring sociocultural units.

A character evaluation of the looter who reported a goldsmith's grave (Cooke and Bray 1985) suggests he was telling the truth. Since there is evidence at Sitio Conte for gold and copper ores and ingots, it is reasonable to suppose that some metal artifacts were made there. Contact period documents written by several chroniclers of different social backgrounds constantly refer to washing river gravels, finding gold nuggets in hilly areas, chiefs having people "mine" gold for them, and the exchange of gold ores and crafted artifacts in local networks for a wide range of products. These details argue for the establishment of an isthmian goldworking tradition at least by cal A.D. 750, after which an increasing demand for metal, in tandem with growing social tension and social differentiation, would have surely led to search for and exploitation of more and more ore deposits. Particularly enlightening has been the discovery of mining data for widespread gold deposits on the Azuero Peninsula, where a mine (Cerro Quema) was recently closed because of environmentalist pressure. One of the many cast figurines found in the deep grave at Finca Juan Calderón (He-4), undoubtedly of local production, was unfinished (Fig. 9d). The gold used to make it need not have come from very far away.

Who Acquired and Exchanged Gold in Panama?

Ever since Cooke reviewed Mary Helms's *Ancient Panama* (Cooke 1984), he has been

[55] Sánchez's 1998 study of Playa Venado ceramic collections revealed that the majority of vessels found in graves at this site represent the later stages of the Cubitá style and the earlier stages of the Conte style (Sánchez and Cooke 2000), that is, they should date between cal A.D. 500 and 750.

uneasy about the emphasis her writings have placed on the relationship among long distance, esoteric information, and political power. In *Ancient Panama*, she does not define clearly the relationship between distance and cultural geography. The great Colombian goldsmithing territories of Sinú, Quimbaya, and Dabaibe are a considerable distance from Sitio Conte, but they are much nearer the eastern border of Cuevan lands, where Fernández de Oviedo described most of the social relations that Helms uses as examples of "Panamanian" behavior. Modern San Blas Kuna leaders, to whom Helms constantly refers as an ethnographic parallel for the pre-contact situation, journey in order to gather intellectual knowledge from specialists who live on the other side of the cordillera—a difficult trip that might take them several days. They move, however, within their own social and ethnic environment. Does this constitute a "long-distance journey" or is it more likely a modern example of an age-old isthmian pattern of the constant exchange of goods and ideas among small-scale polities that belong to the same or similar cultural traditions and have differential access to resources (Cooke and Ranere 1992b)?

Lothrop proposes that several gold artifacts came to Sitio Conte from Veraguas, Chiriquí, or Colombia, basing his ideas on both stylistic and metallurgical considerations. In many cases, subsequent knowledge suggests he was not necessarily right. For example, Lothrop (1937: 166) states that the Figure 9b twin effigy pendant is "foreign." This artifact category, however, has since proven to be widespread at looted sites on the Azuero Peninsula, including at Finca Juan Calderón (He-4), which is a good candidate for being one of the principal settlements of the powerful contact period chieftain Parita, or Antatará (Cooke 1993). Probably, these beautifully crafted and thematically explicit figurines were just coming into vogue when the most recent large graves at Sitio Conte were deposited. That several sartorial and anatomical details are constantly repeated in this Parita Assemblage (Bray 1992) suggests that local manufacturing centers made lots of them for a demanding and discerning audience.[56]

Rather than assume a priori that long-distance connections enhanced power, and that knowledge obtained elsewhere symbolized it, a more parsimonious approach is advocated here, first, to try to establish with inter-disciplinary research the shortest routes that specific objects may have traveled, and, second, to be conscious of the fact that in an environmentally complex and narrow isthmus, trading relationships functioned in a manner akin to those of genetic and linguistic relationships: contacts were closest among nearest neighbors (Barrantes et al. 1990; Bray 1984). In the case of Sitio Conte's social catchment, is it not likely that Fernández de Oviedo's description of native people from Natá journeying to the opposite (Caribbean) side of the cordillera in order to exchange cotton mantles for gold was a postcontact continuation of an ancient pattern of reciprocity between historically and socially related populations? Finds of perforated marine gastropods and mana-

[56] It is understandable to suppose that the emerald set in the back of the famous grave 74 felid (Hearne and Sharer 1992: 92, pl. 20) came from Colombia, bearing in mind how many of these gems can be found in Bogotá shops. Lothrop (1937: 186), however, pointed out that emeralds have been reported from parts of Costa Rica that have structural-geological connections with Panama, while there are unsubstantiated reports of emeralds from the latter country (see note 7).

tee bone inserts for gold pieces at sites like Cerro Juan Díaz, Sitio Conte, and Finca Juan Calderón (He-4) demonstrate that Pacific-side communities in central Panama obtained some materials for ritual objects from the Caribbean coast. A distance of at least 100 km can be reasonably inferred for these products' transport, but estimating how far other raw materials and artifacts traveled is rarely so straightforward. Although Cooke (1998a) proposes that subtidal *Spondylus* shells for manufacturing beads and pendants were obtained outside the sociopolitical catchment of Cerro Juan Díaz, he now realizes that a subtidal rocky stack located 10 km from the site possesses a relict *Spondylus* population, which in earlier times and with a different sedimentary regime could have maintained a thriving population of these shells. Likewise, puma teeth found in Cerro Juan Díaz graves may not reflect exchange with distant peoples, but rather a local abundance of these cats in a wooded savanna inundated with deer (Cooke 1998b; Cooke and Ranere 1992a).

The central Caribbean is one of the areas of Panama that possesses unusually concentrated metal ores in placer and vein deposits. It is here where Columbus and his men acquired great numbers of high-status embossed disks. Some sites with such above-ground features as stone walls and terraces were important and extensive because they were located close to important point resources such as gold ores and basalt. Tumbaga cast figurine pendants—after beads the most evenly distributed metal ornaments in Panama—cannot be made without plentiful supplies of copper. Native copper from the Petaquilla area in addition to raw gold from *aluvión de cerro* and fluvial deposits must have been primary exchange commodities.

Documentary references do not confirm how the chieftains who "owned" the mines along the auriferous and argentiferous Belén, Concepción, Coclé del Norte, Santiago, and Veraguas Rivers interacted with contemporaries on the other side of the cordillera, including Urracá and Esquegua, whose power and military acumen are well documented. One of the primary goals of warfare seems to have been the taking of prisoners for acquiring trophies and for providing labor. There are several references to "human beings" as one of the commodities, which was exchanged for raw and crafted gold. Since extracting gold and copper with preindustrial techniques is a labor-intensive and time-consuming operation, using war captives for mining, sluicing, and collection of metal ores would have been an additional benefit of barter.

With regard to the social and geographic relationship between the producers of metal ores and the crafters and users of the finished artifacts, a particularly intriguing comment, even if it is secondhand, is Peter Martyr's observation that gold ores were sought at certain times of the year, without women being present, under some kind of dietary controls, and accompanied by ceremonies involving deities. Was one of the reasons why crafting is so little mentioned by contact period observers the fact that this process was, like extraction, secretive and esoteric, undertaken by a few, special people at recondite places which would be hard to locate archaeologically? If so, did both behaviors derive from a close relationship between gold and shamanic activities, which is implied by grave associations at sites such as Cerro Juan Díaz and Playa Venado?

Who used gold ornaments in Panama and how were they worn?

Briggs (1989) analyses the distribution of mortuary arts at Sitio Conte and sites that are coeval and older, proposing that in the early cemeteries at El Cafetal and El Indio, age and perhaps occupation were the primary determinants of ownership. From cal A.D. 400–750, few people seem to have owned gold and those who did possessed little of it although the workmanship displays great technical skill. It is possible that some pre-adults owned gold, but the significance of this association is unclear. A few finds of gold and copper ornaments with special apparel—such as incense burners and felid tooth necklaces and associations of fabric and gold—suggest that gold was worn for ritual activities such as shamanistic and curing ceremonies. An association between Initial Group goldwork and agriculture and fertility is supported by finds of ornaments on top of metates.

At Sitio Conte, on the other hand, both Lothrop's intuitive and Briggs's mathematical analyses indicate that a particular suite of ornaments—helmets and other head ornaments, cuffs and greaves, and circular plates with carefully embossed designs—was used only by the richest people. Especially splendid examples of other artifact categories, such as bead strings with thousands of elements, and very elaborate figurine pendants, often with encrusted gemstones and incorporating whale ivory and manatee bone, also adorned the rich. In the few cases in which human remains could be aged and sexed, these alpha individuals were always adult (though not necessarily old) and always male. They generally received special mortuary treatment, being buried seated (probably previously mummified by heat on a large stone slab) and protected by a shelter.

Lothrop and Briggs also detected at Sitio Conte a gradient of material possessions, suggestive of the ranking of material goods that was evident at the 1519 burial rites of Chief París. Since colonial documents constantly talk about male rankings, such as *quibián* or *queví* at the top, *cabra* in the middle, and *saco* at the bottom, it is perfectly reasonable to assume that these kinds of archaeological data substantiate the documentary record.

There is no indication from Sitio Conte or the other sites with contextualized goldwork that women, adolescents, or children were as rich as adult males. Some women and young people, including children, have been found with gold artifacts, but these are few in number and usually include such simple objects as beads and ear and nose ornaments.[57] Perhaps wealth was not hereditary, but acquired by individual effort, a matter that has been amply debated by other scholars (Briggs 1989; 1993; Helms 1976; 1979; 1982; Linares 1977; Roosevelt 1979). The Sitio Conte data accord more satisfactorily with the hypothesis of contingent political systems lacking permanent centers of power, a social situation carefully synthesized by Linares (1979: 76), than with the other extreme proposed by Roosevelt (1979), who argues that precontact Panamanian polities were incipient states in which power was in the hands of hereditary elites. The only other archaeological site in Gran Coclé that has provided gold ornaments of the same high quality and in similar proportions

[57] The fact that a female figure on a Barriles metate leg sports what may be a representation of a gold figurine could be read as a contradiction to this point. The meaning of this particular artifact, however, may have nothing to do with social rank.

and patterns to Sitio Conte is Finca Juan Calderón. The described burial contexts are later than most of Sitio Conte's and the gold found in them is stylistically different precisely because it is more recent. This situation underlines the possibility that these are not the burial grounds for important people of a small chiefdom, like Natá or París, but for a much wider social catchment dominated politically by personalities akin to the *bretwaldas* of early mediaeval Britain, *primi inter pares,* whose seats of power were in different places and whose position was not necessarily passed on to their next-of-kin, but was assumed (often aggressively) by the next most powerful warlord.

The ethnohistoric record describes the display of gold in military encounters, but war was surely not the only social situation in which wealth was advertised. Also, one cannot be sure that people were as warlike between cal A.D. 750 and 950 (the dates of the Sitio Conte burials) as they were in 1500. Nevertheless, stone sculpture in Gran Chiriquí is replete with overt symbols of bellicosity, including severed human heads and the aggressive brandishing of weaponry. Some of the seated figures on the twin statues from Barriles, which appear to be ridiculing the persons who hold them up, wear what are likely to be gold figurines, brandish double axes, and clasp human heads in their hands. Modern bioanthropological studies are needed to confirm Lothrop's (1954) suggestion of intentional violence at Playa Venado. Claudia Díaz (n.d.) found no evidence for violent trauma in the second mortuary horizon at Cerro Juan Díaz, but the social condition and activities of the people buried there, among them many women and pre-adults, would have been very different from those of Sitio Conte's mortuary population.

Linares's (1976; 1977) studies of animal imagery in Sitio Conte pottery present a strong case for certain vertebrate and invertebrate taxa's symbolizing human behavior suitable for raids, skirmishes, and pillage. Spanish documents indicate quite clearly that chief París's prowess rested on his fame as a successful warrior who Andagoya says (Jopling 1994: 35) destroyed a band of migrant Nicaraguans (see note 35). Fighting with sword-clubs and spears thrown by atlatls is well documented for this region of Panama. Details visible on figurines and embossed plaques that depict twins and their animal avatars (Fig. 9) appear to mirror this aspect of human behavior: the saurian, the hook-beaked bird, and the bat in human guise sport the same symbols of power that are evident in mortuary features—ear rods and large bead necklaces and belts—and brandish the same kinds of weapons.

This kind of display in situations that brought together lots of people is overt and not esoteric behavior. Chiefs made no secret the fact that one of the reasons they went to war was to steal and show off rivals' gold and to obtain captives to work for them. Icons, rather than representing deities or other beings with a primarily religious connotation, are more likely to be personalities that relate specifically to social groups, such as origin heroes or mythical warriors that founded moieties and clans and chased off enemies. If there was anything esoteric about gold in ancient Panama, it was probably the acquiring and the making of it, rather than the wearing of it.

In conclusion, it is now apparent that technologically sophisticated goldwork with technical and iconographic antecedents in northern Colombia and coastal Ecuador was being worn by a few individuals in the Gran Coclé culture area at the beginning of the

Christian era. The La Mula painting style, which was in vogue at this time, depicted certain animal and geometric forms (anurans, snake-like beings, birds, crocodilians, and spirals), that are also found on Initial Group metal pieces. It unclear, however, whether these motifs represent a widely distributed and primeval ("pan-Chibchan") belief system (cf. Cooke 1986; Snarskis 1985; 1986) that anteceded metallurgy or if they were introduced into the isthmus along with goldwork. Funerary associations of ornaments, human remains, and other artifact categories suggest that, prior to cal A.D. 750, goldwork (not necessarily locally made) was related to such ceremonial activities as shamanism and agricultural rituals.

The case has been put forward for the *production* of hammered and cast gold items on the isthmus after cal A.D. 750. Although the archaeological, technological, and ethnohistoric data for this activity are sparse, they are supportive and are worthy of serious consideration. As the Spanish chroniclers often remarked, gold is plentiful in Panama in placer and vein deposits. Copper is less widespread, but was surely available in workable form in certain regions. Professional archaeologists have not yet found evidence of the places where gold ornaments might have been made, nor of the people who participated in this activity. The fact that a well-traveled and energetic amateur, however, purports to have discovered a goldworker's grave, alludes, on the one hand, to the inadequate spatial coverage of excavations and, on the other, to crafting being in the hands of a few specialists whose work areas may well be discovered one day in localized or out-of-the-way zones of some high order Pre-Columbian community like Comogre's village.

Ethnographers have described complex rituals and symbolism involved with the acquisition of the materials required for making gold ornaments—gold, copper, beeswax, clay, carbon, and fuel—and with their transformations into finished objects of different shapes, colors, brilliance, and taste (Falchetti 1997; Reichel-Dolmatoff 1990). Therefore, one would expect collecting ores and making gold objects to have been accompanied by esoteric activities of some nature as Peter Martyr's informants suggested. After cal A.D. 750, when a few adult males were able to accumulate large numbers of finely wrought ornaments, Gran Coclé goldwork shares a descriptive iconography with other widely used media. It is likely that repetitive textual details refer to characters, myths, beliefs, and details of social organization that would have been understood by the regional population at large. So would the exoteric political message of the glittering array of helmets, plaques, bracelets, belts, and anklets worn to battle and to the funeral bier by chieftains and warriors.

Table 1 Metal Artifacts at Pre-Columbian Burial Grounds in Panama

Site	Estimated Age	Graves	Interments	Individuals	Metal Items (beads in parens)
El Cafetal	A.D. 400–500?	33	?	approx. 37	7 (br. or neck.) [b]
La India-1	A.D. 400–500?	?	?	?	13
Las Huacas-I[c]	A.D. 400–500?	?	?	?	8
Cerro Juan Díaz-I	A.D. 150–700	4	5	approx. 46	11
Playa Venado	A.D. 500–800?	?	?	?	at least 13 (29 + neck.)
Las Huacas-II	A.D. 700–750	?	?	?	5
Rancho Sancho	A.D. 700–750	1	?	?	3
Sitio Conte-I[d]	A.D. 700–750	2	4	8	141 (>7116)
El Caño-I	A.D. 750–850	1	1	1	2
Sitio Conte-II[e]	A.D. 750–850	14	at least 10	at least 10	104 (>509 + 2 neck.)
Sitio Conte-III[f]	A.D. 850–1000	15	at least 18	at least 61	168 (>292 + neck.)
Sitio Conte-IV[g]	A.D. 750–1000	41	?	at least 78	583 (>3728)
Sitio Conte-V[h]	Post-A.D. 1000	8	8	at least 9	1 (60)
Cerro Juan Díaz-II (Operation 3)	A.D. 750–1000	15	at least 16	at least 22	3
Cerro Juan Díaz-II (Operation 4)	A.D. 750–1000	50	?	140	3 (22)
El Indio-II	A.D. 750–1000	42	42	at least 49	7 (1)
La Cañaza	A.D. 750–1000	27	27	at least 35	2
Miraflores	A.D. 750–1000	3	?	?	3(6)
El Caño-II	Post-A.D. 750	17	?	?	4 (1)
Finca Juan Calderón (He-4)[i]	Post-A.D. 1000	?	?	?	2
La Peña	Post-A.D. 1000	?	?	?	7
El Candil	A.D. 1300–1520	1	1	1?	1
Toro Bravo	uncertain	1	1	1?	1
El Caño-III	A.D. 1502–1516	4 (urns)	2	at least 3	4
Espavé, Guararé	uncertain	?	?	?	7 (>206)

[a] Twenty-five categories of artifacts are identified: bar, bead, bell, casting or setting, chisel, cuff, clip (nose), disk (embossed), disk (plain), ear plug or spool, ear rod (or fitting for), figurine pendant, greave, headband, helmet, mirror frame, overlay (decorated), overlay (undecorated), pin, plaque with divergent spirals, ring (nose or ear), strip or sheet, tooth (counterfeit), triangle, unknown form, whistle figurine.

[b] Br. = bracelet, neck. = necklace

[c] Gladys Casimir de Brizuela excavated a total of about 46 "tombs" at Las Huacas

[d] Graves 31 and 32, which contain Cubitá-style vessels

[e] Lothrop's early graves

[f] Lothrop's late graves

[g] Mason's graves, for which pottery has not been published in full and therefore cannot be dated by reference to ceramic typology.

[h] Lothrop's period of decline graves

[i] This site was excavated at different times by two professional archaeologists—Matthew Stirling and Gordon Willey—who did not find gold (Ladd 1964), and by several amateurs, of whom only Thelma Bull recorded finds of gold artifacts. As noted on page 39, large numbers of fine gold artifacts were found by at least one amateur (Biese 1967).

Categories of metal items[a]	Graves with metal	Interments with metal	Individuals with metal	Sources
5	4	?	5	Briggs 1989; González 1971
5	?	?	?	Ichon 1980; Mitchell and Heidenreich 1965
3	3	?	?	Casimir de Brizuela n.d.; Cooke et al. 2000
6	4	3 or 4	3 or 4	Cooke and Sánchez 1998; Cooke et al. 2000
5	?	?	?	Bull 1958; 1961; Lothrop 1956; Lothrop, Foster, and Mahler 1957; Sander, Mitchell, and Turner 1958a; 1958b
1	1	?	?	Cooke et al. 2000; Casimir de Brizuela n.d.
1	1	?	?	Dade 1960
18	2	4	6	Lothrop 1937
2	1	1	1	Doyle 1960
16	9	at least 5	at least 9	Lothrop 1937
23	15	11	at least 19	Lothrop 1937
22	?	at least 9	at least 6	Briggs 1989; Mason 1940; 1941; 1942
2	2	2	2	Lothrop 1937
2	2	2	2	Cooke and Sánchez 1998
3	4	2	at least 3	
4	4	4	at least 4	Briggs 1989; Ichon 1975; 1980
2	2	2	?	Briggs 1989; Ichon 1975; 1980
2	1	?	?	Cooke n.d.; 1976a; 1998a
4	3	?	?	Cooke et al. 2000
2	?	?	?	Bull 1965
3	?	?	?	Mitchell 1962
1	1	1	1	Doyle 1960
1	1	1	1	Doyle 1960
2	2	2	at least 3	Cooke 1976b; Cooke et al. 2000
2	at least 6	at least 6	?	Bull n.d. a; n.d. b

Note: No metal artifacts were found at Cerro Mangote (5000–3000 B.C.), where ninety individuals were buried (McGimsey 1956; McGimsey et al. 1986–87; Norr 1990). At Sitio Sierra (200 B.C.–A.D. 200), 24 interments were found, along with 24 individuals, but no metal artifacts (Isaza 1993). El Indio I (A.D. 200–500) contained 37 graves, 37 interments, and 43 individuals, but no metals (Briggs 1989; Ichon 1980).

Table 2 Panamanian Gold Vein Deposits in Colonial and Republican Times

Site	Watershed	Location	Dates of Operation
Cana (Espíritu Santo)	Pacific	Headwaters of the Tuyra River, Darién	Apogee ca. 1680–1724 Re-opened late 19th and early 20th century by Darién Gold Mining company
Capira	Pacific	On hills just south of the modern settlement	19th century Reassayed, but not reworked in the 1990s
Cerro Quema	Pacific	At a prominent hill of this name	Surveyed in the 1990s by a Canadian company
Chepo de las Minas (El Gallo)	Pacific	West-central Azuero Peninsula	Small gold-mining operation in the 20th century
El Llano	Pacific	Bayano River	Small gold-mining operation in the 20th century
Fort Bowen (probably the same location as present-day Fomón and colonial Trinidad)	Atlantic	Belén river (Trinidad reported as six leagues upstream)	1850s
Parita Bay	Pacific	Unknown; Chitré used as operations base	1885
Remance	Pacific	Pacific Veraguas, southwest of San Francisco (another gold mine, Mineral de San Francisco, was located at Aguacatal, near Calobre, but it is not known whether it was a vein or *hucica* deposit)	Colonial Late 19th century (by two Frenchmen, Schuber and Farrand) Interwar years (Veraguas Mine Co. and Panama Corporation Ltd) Re-opened 1989 by Transworld Co. and Minera Remance Closed 1998
Río Pito	Atlantic	Far eastern corner of Comarca de San Blas	Surveyed 1990s, but not exploited
San Antonio and Santa Lucía	Atlantic	At the confluence of the Coclé del Norte and San Juan Rivers	Stirling visited colonial Spanish tunnels in the 1950s, when gold was still being panned Revisited by Griggs (2001)
Santa Rosa	Pacific	South of Cañazas, Veraguas	1990s
Turlurí or Turlurú (now known as Escobal)	Atlantic	On the Santiago River, 3 to 4 leagues from the treasury at the mouth of the Concepción River	1559–1589 Lay abandoned when visited by Juan Franco in 1790s Exploited by the Veraguas Mining Co. between wars Reprospected in the 1990s by Panama Gold S.A.

History	Sources
Kuna uprising led by Louis Tibon and Luís García destroyed the mine in 1724 Spanish governor Ariza described veins as *siete varas de ancho* (Carles 1962) Between 1899 and 1907 produced gold worth £520,160 with gold averaging 2.1 oz/ton	Carles 1962 Castillero Calvo 1995: 228–229 Cooke, Norr, and Piperno 1996 Joyce 1967
	UN 1971
Environmentalist protests prevented production	
	UN 1971
	UN 1971
Gold in quartz lodes down to about 40 feet below the surface Yield estimated in 1856 as 1 oz/ton Some silver present	Star and Herald newspaper, 29 March 1856
California companies extracted gold from quartz veins Unclear whether this is the same mine as the one described as "les mines de Chitré dans le lit d'anciene riviere on ete explotees par M. Facio"	Bulletin 1882
Canadian geologists find stone ore crushers Veraguas Mine Co. employs 50,000 men and produces 8 to 10 tons gold/year In 1989, planned annual output estimated at 260,000 troy ounces Mine employees told Cooke that work conditions were "atrocious"	Bulletin du Canal Interocéanique, 1882 Castillero Calvo 1995: 382 Oller 1935 USDI 1989: 991–992
Gold present in large copper deposit Residents of Puerto Obaldía still pan gold in alluvial gravels that descend from the major ore body near the cordillera	UN 1971
Mískito attack in 1765 left 25 dead Griggs saw plastered walls, ditches, mine shafts and stone ore grinders and bases	Castillero Calvo 1995: 377 Stirling n.d.
Closed due to workers' protests	
Colonial documents say gold was of good quality (>22 k) Vein bodies esconced in andesite Operations stopped because of catastrophic flooding	Castillero Calvo 1967: 58–61, 136–37 Franco 1978: 28 Jopling 1994: 10–15, 340 Roberts and Irving 1957

Table 3 Panamanian Ore Deposits in Panama that Include Silver

Site	Watershed	Location	Contents	Source
Alto de las Minas	Pacific	North of Cañazas, Pacific Veraguas	100,000 tons of ore: estimated 12 g/ton gold and 70 g/ton silver	Esquivel 1978
Cerro Colorado	Pacific	Eastern Chiriquí cordillera	In a copper deposit (5 g/ton)	Gjording 1983 USDI 1980: 1258
Cerro Campana	Pacific	Central cordillera, Panama province		Esquivel 1978
Molejón	Atlantic	Coclé del Norte River, north of Petaquilla copper mine	Silver to gold ratio of 2:1	Peter Folk, personal communication, 2000
Río Pito	Atlantic	Far-eastern San Blas	Gold and silver	Esquivel 1978
River Belén ("Bowen," "Fomón," Trinidad)	Atlantic	Caribbean slopes of Coclé and Colón provinces	Gold ores with high silver content	Castillero Calvo 1995: 79
San Bartolomé de Tabarabá*	Pacific	between Las Palmas and Santiago, Pacific Veraguas		Castillero Calvo 1995: 155 Téllez 1974: 348

* The precise location is unclear. The contact period chieftain known as Trota, whose territory was centered on the River Caté (Castillero Calvo 1995: 142), east of Tabarabá, is reported to have controlled a port and mines with gold-copper alloy and pure gold (Jopling 1994: 10). The mine was known in colonial times and was worked by black slaves.

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From Jade to Gold in Costa Rica: How, Why, and When

Michael J. Snarskis

One of the principal shifts in elite material culture in prehistoric Costa Rica occurred when gold replaced jade as the preeminent valuable material in the middle of the first millennium A.D. Situated between Mesoamerica and the Andes, the region was always one of cultural dynamism, drawing on and influenced by both areas to varying degrees while at the same time creating its own distinctive cultural patterns. The shift from the primacy of jade to gold is interesting in and of itself, especially as jade had ceased to be an item of value in protohistoric and early historic cultures in Costa Rica. This jade-to-gold transition is one of the clearest examples of dramatic culture change in prehistoric America and an example of correspondence between ideology and material culture. At present, little is understood about why this change occurred or how it took place. Here the focus is on the nature of jade use in ancient Costa Rica and the arrival and eventual dominance of gold, emphasizing the suites of culture traits in evidence before, during, and after the transition from jade to gold.

For most of its prehistory, Costa Rica is conceptualized as consisting of three or four cultural spheres. Guanacaste is part of what was a larger region, Greater Nicoya, that included neighboring southeastern Nicaragua and is distinctive in its relatively low rainfall and dry tropical forests. In the southeast, the Diquís subregion also extended beyond modern political boundaries, into western Panama. It sustained a rain forest, and today areas near the Osa Peninsula may receive as much as 4 to 5 meters of rain per annum (Fig. 1). The Central Highlands, where modern San José is located, and the Atlantic Watershed are both areas of tropical forest and high annual rainfall. They are considered two distinct subregions but share many features in common, so here they are collectively defined as the Central Region, which also includes the Central Pacific Subregion. Northeastern Costa Rica—the coastal Atlantic Watershed north of the modern port city of Limón—receives as much rain as the Osa Peninsula and, like it, is little explored archaeologically.

Both Guanacaste and Diquís were involved with distant cultural regions over a long period of time, from about 1500 B.C. onward. The Diquís subregion was always more "southern-oriented" in character, while Guanacaste seems to have kept a finger on the Mesoamerican cultural pulse through time. Both subregions, however, show some evidence of varied cultural overlays in chronologically different periods. Northern-derived greenstone lapidary

Fig. 1 Archaeological subregions and sites of significance in Costa Rica

work and red-on-buff zoned bichrome pottery (the Aguas Buenas complex) appeared in Diquís during the jade-carving period (ca. 300 B.C.–A.D. 500–700) in the rest of Costa Rica. In turn, metallurgy and circular house foundations, traits of southern origin, appeared in the Bay of Culebra in Guanacaste ca. A.D. 800–1000.

A caveat is warranted here: the archaeological cultures of Costa Rica were never Olmec, Maya, Aztec, nor Colombian, or much less, Andean. These larger spheres of cultural influence had a passing effect on indigenous Costa Rican cultures well adapted to tropical forest environments, over which they simply formed a periodic veneer, especially as regards ritual symbolism and its associated material artifacts. Trade in exotic goods, related mythology, and esoteric knowledge among Costa Rican elites must have played a key role in the perceived importance or even predominance of foreign traditions. These were adopted to fit local circumstances, and foreign prestige articles were valued more for the exotic "faraway" belief

systems and rituals they represented, thereby conferring power on those (apparently mostly shamans) who received and possessed them (Helms 1992; 1988; Ibarra Rojas 2001a; Bray, in this volume).

The Central Region experienced the greatest cultural flux during the last three or four millennia, and it is there that an "edge effect" of shifting cultural frontiers can be discerned most clearly (Bray, in this volume). Therefore, the Central Region will be emphasized here, especially the Central Atlantic Watershed, specifically the Linea Vieja (the "Old Line" railroad zone along the Central Atlantic piedmont) and the Turrialba Valley.

In 1974 the relative chronology of jade and gold artifacts, their symbolism, and their associated culture traits were still notably ambiguous. During the 1970s and early 1980s, the first scientific archaeology team in the National Museum of Costa Rica (MNCR), founded and directed by the author, established a C-14-supported cultural sequence for the Central Atlantic Watershed. Included in this work was the identification of two previously unknown ceramic complexes—La Montaña, in the Turrialba valley, and Chaparrón, in the San Carlos plains—that extended the Central Region sequence to ca. 1500 B.C. (Snarskis 1978). The MNCR also conducted the first horizontal excavations in the country and established secure grave lot associations for jade and gold artifacts. This basic work was validated, challenged, and greatly expanded by subsequent MNCR, University of Costa Rica (UCR), and other archaeologists through the late 1980s and 1990s.

Jade: Its Relative Chronology, Sourcing, Distribution, Symbolism, and Associations

The reverence for jade and its potent mythic and power-bestowing symbolism began on a small scale in the Mesoamerican Early Pre-Classic (1200–900 B.C.) and was later adopted by non-Olmec cultures in central Mexico, Oaxaca, and Honduras (Garber et al. 1993: 211–212). The "formal and iconographic traditions of figure-carved jade . . . began and flourished in the seminal Olmec civilization, its allies and trading partners" (Graham 1995: 21). A stylistically different jade-carving tradition was developed by the Maya in the Late Pre-Classic (100 B.C.–A.D. 250) that lasted into the historic period. In Central Mexico and the Maya area, jadeworking continued until the time of Spanish contact. This, however, was not the case in Costa Rica. There, fine lapidary work in jade first appeared in the last centuries B.C., was already waning by A.D. 500, and had virtually disappeared by A.D. 700.

Jade was still a potent symbol in sixteenth-century Mesoamerica. For the Maya, jade represented water and the young, growing maize plant, both vital to human life. Nicholas Saunders (1998, in this volume) emphasizes the symbolic significance of shiny, reflective objects, suggesting that they embody a shamanic worldview. The highest-quality Costa Rican jades indeed have a shiny surface. Unlike glittering gold, however, translucent jades have depth, as if one is looking inside, below the surface, at green plants reflected in a still pool of water. The subtext here is agriculture. Jade symbolized the "basic vital force" responsible for sustenance and survival.

The Olmec–Costa Rica Enigma and Some Hypotheses

Several Olmec jades from non-scientific contexts have been identified during the last sixty years as having been found in Costa Rica (Pohorilenko 1981). Given the number and size of collections inside and outside the country, one can safely say that at least three or four dozen Olmec jades have surfaced there, and perhaps many others are waiting to be found. Here, following Mark Miller Graham (1993; 1995), the term *Olmec* refers to a distinctive art style and iconography recognized in many parts of Mesoamerica during the Early and Middle Pre-Classic periods, but not necessarily the civilization that created large sites, pyramids, and monumental stone sculpture in the Mexican Gulf Coast region. What was the source of raw material for Olmec jades? Why do so many Olmec and fine Costa Rican jades have the same or similar deep blue-green color, as well as a more three-dimensional sculptural style, including some shared motifs and, most likely, symbolism? What were the cultural dynamics and mechanisms that brought Olmec jades to Costa Rica but apparently not to the intervening regions, and why is there a chronological discrepancy of as much as a thousand years between the height of Olmec culture and the known contexts of Olmec-style jades from Costa Rica? Some of these are questions that have been debated by archaeologists and other scholars for more than fifty years. They are addressed here individually.

Jade Source. It is important to distinguish between true jade, known geologically as jadeitite or jadeite, and "cultural jade," which includes a much wider variety of rocks and minerals that were used to make polished stone artifacts (Harlow 1993). Many have sought a source of jadeite in Costa Rica (Bishop and Lange 1993; Lange and Bishop 1986; Reynoard Baumgarten 1993), but no one has been successful, although some rocks and minerals found on the Santa Elena and Nicoya Peninsulas are the same types associated with jadeite outcrops. George Harlow (1991; 1993) posits that all the componential and color variations known for jade in Mexico and Central America are found in the Motagua River valley in Guatemala and that it was the only source of jadeite for all Pre-Columbian lapidaries. Recent technological analyses using X-ray diffraction, X-ray fluorescence spectroscopy, scanning electron microscopy, and visible near-infrared reflectance, however, suggest multiple sources and tend to distinguish Olmec and Costa Rican blue-green objects from the Motagua source, which did produce the typical Maya apple-green jade (Bishop 1993; Bishop, Sayre, and Van Zelst 1985; Hauff 1993; Lange and Bishop 1986).

In 1998, as part of an exhibition and catalogue on Costa Rican jade, the Metropolitan Museum of Art in New York used X-ray diffraction to analyze 117 pendants, mace heads, and polished celts found in the country, of which 103 were identified as jadeite (Jones 1998: 97–111). One or more geological sources of jadeite likely are or were located in northwestern Costa Rica, and other sources of similar stones are to be found in the Atlantic Watershed (Reynoard Baumgarten n.d.). Some highly polished quartz/green jasper artifacts in the Metropolitan Museum catalogue are visually indistinguishable from others of jadeite. Furthermore, there are too many large areas of eastern Honduras, Nicaragua, and Costa Rica that still have not been systematically investigated so as to preclude the presence of jade

artifacts. Lastly, the likelihood that Costa Rican sources of geological jadeite may well have been mined to virtual exhaustion or were hidden by rising sea levels, seismic activity, and flooding or erosional silting cannot be disproven. The sheer volume of "cultural" jade from Costa Rica—hundreds of thousands of objects were produced over 800–1000 years—suggests that local sources provided a considerable percentage of the raw materials.

Olmec and Costa Rican blue-green jade. Given the above, one cannot reject the possibility that Costa Rican geological jade sources were well known by those who produced and widely disseminated the Olmec art style. The busy trade routes, by sea and overland, were probably much more ancient than the known late prehistoric or historic ones, and may in fact have been utilized before jade objects were produced in northern Nuclear America (Ibarra Rojas 1995; 1999, and personal communication, September 1999). In any case, it is likely that explorers or traders familiar with the Olmec art style and iconography reached Costa Rica but did not have a settled outpost there. Large sea-going canoes of Maya traders were noted by the Spanish. Jade or other greenstone pendants have not yet been found with the earliest Costa Rican ceramic complexes that mostly date to ca. 1500–500 B.C., contemporary with the Olmec art style to the north. Only three of these earliest ceramic components, however, have clear stratigraphic contexts and have undergone hand-troweled horizontal excavations: Tronadora Vieja (Bradley 1994; Hoopes 1994; Sheets and McKee 1994), Guayabo de Turrialba (Snarskis n.d.), and La Montaña in the Turrialba Valley (Snarskis 1978). It is not an unrealistic scenario that carved jade/greenstone may be found one day in context with early Costa Rican ceramic complexes given the relative paucity of stratified early ceramic sites yet known and the clear stylistic (more three-dimensional, sculpted), symbolic (axe-gods, importance of maize agriculture), and raw material similarities between Olmec and Costa Rican jades. Although a number of Early Classic belt plaques in the style of the famous Leiden Plaque have been reportedly found in Costa Rica, the flat Maya-style plaques engraved with historical scenes have no analogue in Costa Rican carved jade, nor do plaques with low-relief compositions.

Olmec artifacts in Costa Rica: How did they get there? If any Olmec jade lapidary artifacts reached Costa Rica during the period in which they were being manufactured (ca. 900–500 B.C.), archaeologists have not yet found them. The forms and decorative styles of several early ceramic complexes, however, suggest contacts at this time. In 1978 a ceramic type not then seen in any later ceramic complexes was defined: Atlantic Red-Filled Black (Snarskis 1978), now known from La Montaña (13 sherds), Chaparrón (15), and Tronadora (5) (see Hoopes n.d.). One sherd from Chaparrón displays part of a thick line and wave-like (eyebrow?) motif (Snarskis 1978: fig. 13n) reminiscent of the motif illustrated in Benson and de la Fuente (1996: 198, cat. no. 36). All these sherds have varying amounts of red pigment, similar to Early Formative black highly polished vessels with gouged-out or excised zones filled with red pigment from Mesoamerica (Benson and de la Fuente 1996: 198, cat. nos. 36, 38; Coe 1995: cat. nos. 59, 61, 102, 103, 108b, 109).

Fig. 2 Olmec hollow ceramic "baby" figure probably made on the Gulf coast of Mexico but said to have been found at Playa Potrero, Guanacaste Province, Costa Rica (after Jones 1998: 40, fig. 24)

A large, white-slipped ceramic seated figure, reportedly dug up near Playa Potrero on the Nicoya Peninsula, was recently described as "a reasonably canonical-looking . . . Olmec 'hollow baby' figure of the type known in the Early Formative period in Highland Mexico and San Lorenzo" (Graham 1998: 40, fig. 24) (Fig. 2). Its size, dirtiness, and obviously hasty repair evident when it was first shown to the author at the MNCR pointed to it indeed being found in Costa Rica. Because of its fragility, it seems unlikely that it was transported overland in antiquity. Long-distance maritime trade ca. 1200–500 B.C. must be seriously considered.

More than a dozen Olmec jades have been reported and published as found in Costa Rica. At least several dozen exist in museum and private collections around the world, all but one without reliable scientific excavation data. The exception is a remarkable Olmec jade clamshell with a low-relief carving of a human hand with knotted bow at the wrist and grasping a mythic creature that is half baby jaguar and half insect (Graham 1998; Guerrero Miranda 1998; Snarskis 1979; 1992; 1998: note 20). Jade clamshells of this size and realism were only made by Olmec artisans at the zenith of their technical prowess. The piece is likely solely of Olmec workmanship, except perhaps for two small perforations front to back, added after two double-drilled connecting perforations located on the back of the pendant and invisible from the front, the classic Olmec pendant perforation technique.

An Olmec jade spoon suggests that the Maya inherited, appropriated, or looted some older Olmec jades and modified them. The spoon, in the Instituto Nacional de Seguros

(INS) Jade Museum in San José was possibly used in bloodletting rituals or to inhale psychotropic snuff and is engraved with glyphs dating to the Late Pre-Classic (Graham 1998: 51–52, pls. 26, 28; Joralemon 1976: 256, cat. no. 100). Early Classic Maya belt plaques found in Costa Rica may have also been modified by Maya or by indigenous Costa Ricans who received them. The ancient peoples of Costa Rica appear, however, not to have chosen the engraved Maya jades as models to be followed in local manufacture.

It is significant that indigenous peoples of Costa Rica knew enough about Mesoamerica to appreciate the rarity, value, and high status inherent in imported jade items, but may not have known their original ritual contexts. They appear, however, to have incorporated these objects into their own rituals and symbolic systems. The fact that they knew such objects came from distant lands suggests face-to-face interaction, at least with traders. The probable dates of manufacture for these objects would suggest that Olmec and Maya jades came south together for the most part, probably between 200 B.C. and A.D. 400. This scenario fits well with other types of Mesoamerican trade objects reportedly found in Costa Rica, including Usulután ceramics, slate-backed pyrite mirrors (some with Maya glyphs), Ulúa marble jars, Thin Orange ceramics, and a stucco-painted Teotihuacan urn (Stone 1977: 33–34, 60–65). The salient point here is that almost all long-distance trade articles from Mesoamerica appear relatively early in the Costa Rican cultural sequence, and mostly in the last centuries B.C. and the first centuries A.D. To date only one later Mesoamerican import has been excavated scientifically, a Tohil Plumbate sherd (ca. A.D. 800) at Nacascolo, Bay of Culebra (Snarskis and Salgado G. 1986). Other Plumbate vessels have been reported from northwest Costa Rica, but without controlled contexts (Stone 1977: 33).

A jadeite pendant found in Costa Rica has an avian head similar to two other avian "axe-god" pendants found in jade caches at Cerro de las Mesas, Veracruz (Drucker 1955: pl. 36f) and Chacsinkin, Yucatan (Andrews 1986: 8b). The three avian-head jades have similar crests, beaks, and engraved eyeforms. All have two transverse perforations spaced 3 to 5 centimeters apart for separate strings of beads. This head form on an avian axe-god looks very un-Costa Rican, and Philip Drucker called the Cerro de las Mesas example "unquestionably Olmec, although. . . possibly. . . a trade object" (Drucker 1955: 60). By extension, the Costa Rican piece is also "Olmec," although it was not initially identified as such (Easby 1981: 136, pl. 66; Snarskis 1998: 66–67, pl. 38).

There is still disagreement on the role of the Olmec jade-carving tradition vis-à-vis that of Costa Rica; some scholars see no connection whatsoever (Pohorilenko 1981), while others maintain that whatever connections or stylistic influence may have existed did not really matter (Lange 1993: 287–288). Elizabeth Easby writes that "interrelationships were too widespread for the tradition of jade carving to have arisen in Costa Rica independent of northern influence. Lacking Maya elements, it can only have come from an earlier source: directly or indirectly from the Olmec" (Easby 1968: 81).

More recently, Graham has asserted that "the florescence of the jade axe [axe-god] tradition in Costa Rica represents a transformation of the earlier Olmec tradition of carving rather large axes that were monuments, more like miniature stelae than ornaments, employed as funerary offerings and perhaps as political gifts. The infantile supernatural being

Fig. 3a Olmec jade "axe-god" reported to have been found on the Nicoya Peninsula (h 14 cm). From the Daniel Oduber collection.

Fig. 3b Carved stone ballplayer figure (h 13 cm). From the Daniel Oduber collection.

[were-jaguar] whose face or body appears on many Olmec axes is, among other things, an expression of fertility and probably the guardian of rulers" (Graham 1993: 22–23). A selection of Olmec "votive axes" is illustrated by Peter David Joralemon (1971: 56–58; 1976: 44, fig. 12).

An extraordinary Olmec axe-god from the collection of former Costa Rican president Daniel Oduber is published here for the first time (Fig. 3a). Made of high-quality translucent blue-green jade, it has a were-jaguar snarling face and retains traces of the original red cinnabar coating. It is virtually identical to Olmec objects illustrated in *The Olmec World: Ritual and Rulership* (Coe 1995: frontispiece, pls. 36 and 90). Reportedly found on the Nicoya Peninsula many years ago, the Oduber jade is one of the clearest examples of the Olmec art style and iconography known from Costa Rica. Also from the Oduber collection comes a remarkable Olmec ballplayer, complete with heavy stone yoke around the waist (Fig. 3b). The piece is fully three-dimensional in white-green stone and shares facial features and stone type with a seated female figure holding an infant (Coe 1995: 158, pl. 34).

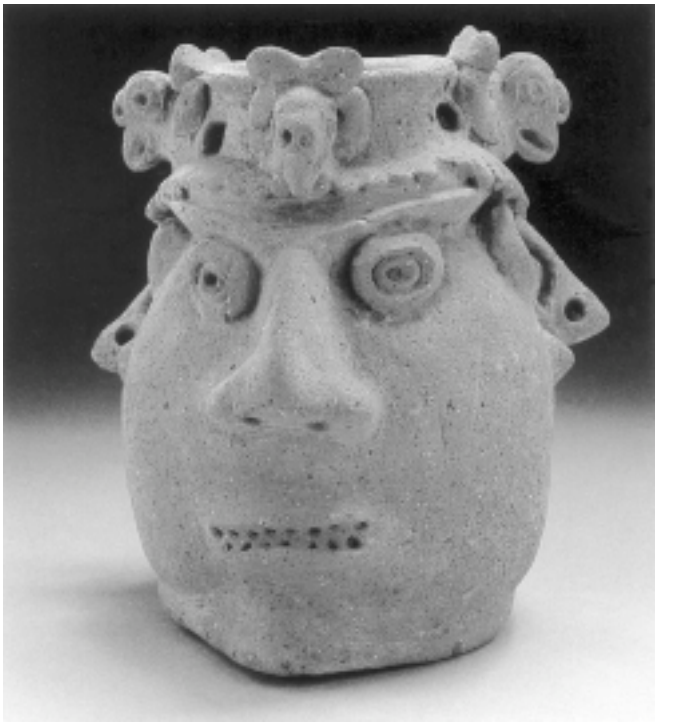

Fig. 4 La Selva phase ceramic vessel portraying a human head with bird adornments, likely representing a shaman and his spirit helpers (after Benson 1981: 67, pl. 33). Photograph by Dirk Bakker, Detroit Institute of Arts, Founders' Society.

The archetypal Costa Rican jade form is the so-called axe-god, in which an animal, human, or composite effigy surmounts a celt-like polished blade; such pendants were drilled transversely for suspension. Most axe-gods convey a strong sense of three-dimensionality and often a purposeful ambiguity as regards the figural representation. Many display two tiny zoomorphic figures (usually birds) on top and at each side of the head. While some jades show two simple projections akin to the feather tufts on the head of the harpy eagle—probably the bird most often portrayed, although quetzals follow closely (Fonseca Zamora and Scaglion 1978)—most show the two tiny animals, often highly stylized. A ceramic portrait head of the early La Selva phase sheds light on the symbolism of these tiny figures: the head has two birds over the ears and one over the eyes. These may represent the emissaries of a shaman, who was thought to hear and see what the birds, bearing his spirit, heard and saw in their long-ranging flights (Benson 1981: pl. 33) (Fig. 4). Arguably the most "Olmecoid" jades of Costa Rican manufacture are pendants such as those in Figure 5. For one example, Graham (Graham 1995: 25–26) notes that the pointed U-shaped or handle-like motifs flanking the long tongue are schematic renderings of the distinctly Olmec ritual object most commonly called a "knuckleduster" or *manopla*, an enigmatic artifact and motif which, along with a torch symbol, can be seen in Olmec art (Grove 1987: 61). Most of these objects appear to have been worn singly as pendants.

Fig. 5 Greenstone celt pendant reported to have been found in the vicinity of Bagaces, Guanacaste Province (h 11.2 cm) (after Jones 1998: 71, pl. 49)

Pre-Columbian Jade in Costa Rica: How, Why, and When

Costa Rica does not have an evolutionary history of jade carving, that is, a halting beginning characterized by small, unsophisticated products, followed by progressive complexity in tandem with greater symbolic and ritual importance. Instead, Costa Rican jades appear as full-blown, complex icons that resoundingly mark the beginning of the autochthonous jade-carving period, while at the same time displaying indubitably Mesoamerican, especially Olmec, art styles and iconography. The florescence and apogee of Costa Rican jade carving corresponds precisely with the increased number, extension, and complexity of archaeological sites in the northern two-thirds of the country and the prevalence of maize agriculture, the cultigen most frequently found in macro- and microbotanical evidence; palm nuts are a strong second (Snarskis 1978; 1981a; 1984a).

How. The carving of jade (or similar greenstone) as the primary symbolically significant material in the ritual realm of Costa Rican Pre-Columbian cultures derived directly from earlier Mesoamerican Middle Formative cultures. The original culture contact may have occurred during the Early Formative, when Olmec-culture-bearing tradesmen reached Costa Rica after they learned that precious greenstones were to be found there. But the majority of Olmec jades seem to have arrived in Costa Rica through Maya traders in the

Late Pre-Classic through the Early Classic. David Mora Marín and John Hoopes (personal communication, 1998) have suggested that Olmec-style jades and royal Maya belt plaques may have been placed into circulation in southern Central America as the result of lowland Maya warfare and tomb desecration in the fourth century A.D. If the hypothesis is accepted that most or all Olmec jades were brought to Costa Rica by Maya or Maya-associated traders during the period spanning the centuries before and after Christ, why do Costa Rican jades have a much greater stylistic similarity with Olmec jades, and why have Olmec jades been found in Costa Rica in greater quantities than Maya jades? Pushing back the date of jade carving in Costa Rica will depend greatly on future scientific excavations in early ceramic sites.

Why. The most logical answer to the Olmec–Costa Rica similarities in jade styles is that Olmec travelers or traders got wind of jade sources in Costa Rica and went there to find them (Coe 1962). They may have brought some Olmec-style jades, perhaps raw jade blocks and other articles with them for trading purposes, but all indications point to a rather large disparity in levels of sociocultural complexity during the period around 1200–500 B.C., between the height of the Olmec art style and the appearance of jade in Costa Rica. Why would bearers of the Olmec art style seek out Costa Rica if not for exploratory or expansionist reasons? A source of blue-green jade would be a very good reason indeed. This hypothesis contradicts that which says that all real jadeite carved in Mesoamerica and Central America derived from the Sierra de las Minas source in southern Guatemala (Harlow 1991; 1993) (See also *Addendum*, p. 195). Despite the lack of concrete evidence, however, the theory of a Costa Rican jade source seems most likely because of the sheer quantity of jade/greenstone objects already found—many tens of thousands, with a likely total production of hundreds of thousands. The distance involved is not that great for overland sojourns by Olmec traders or travel by sea along the coast. Although there are few data recovered by scientific archaeologists (Guerrero Miranda 1993), there have been looters' tales for decades about the numerous early cemeteries along the crests of the coastal ranges of the Nicoya Peninsula, many characterized by deep shaft tombs and, supposedly, Olmec jades, including jade replicas of boats (Frederick W. Lange, personal communication, 1977).

When. The two temporal options are as follows: some sort of trade was carried on with Early-Middle Formative Olmec-culture-bearing representatives or third-party professional traders associated therewith, ca. 1200–500 B.C.; Maya traders brought Olmec and Maya jades to Costa Rica simultaneously during the Late Pre-Classic to Early Classic periods, ca. 300 B.C.–A.D. 500. Given that the beginning of this latter time span is roughly the time when Costa Rican jade carving appears to have begun, this hypothesis is seductive. If it was in fact the case, why were most Costa Rican jades carved in a three-dimensional style much more similar to Olmec than to the two-dimensional Maya pictorial style exemplified by royal belt plaques? More sites from relevant time periods must be excavated in Costa Rica, and the archaeology of the area between southern Mesoamerica and Costa Rica better known, before an accurate scenario can be put forth.

Fig. 6 El Bosque phase (A.D. 1–500) house complex foundation at Severo Ledesma, near Guácimo in the eastern Atlantic Watershed. The sole entryway is at lower left, implying restricted access to the larger, subdivided right side, probably males' quarters. Scale at center right is 2 m in length (after Snarskis 1984b: 168, fig. 2).

Features and Artifacts Associated with the Jade-working Period

There is a distinct suite of characteristics, including site type, features, and artifacts, associated with figural carved jade in the Central Atlantic Subregion. They are notably distinct from those that would arise with the appearance of metallurgy.

Site type. Sites of the El Bosque phase (ca. 300 B.C.–A.D. 400) in the Central Atlantic Watershed and of the Pavas phase in the Central Valley and Central Pacific Subregion are extensive, covering several hectares. These sites are virtually impossible to delimit. The settlement pattern was dispersed, with rectangular houses of different sizes 50 to 100 meters apart. This vigorous flowering of sites, artifacts, and population occurred simultaneously with the surge in maize cultivation and jade carving. Macrobotanical maize and jade have both been found by archaeologists in the largest quantities during this period (Blanco Vargas and Mora Sierra 1995; Snarskis 1976b; 1978; 1984b), although the presence of maize is documented earlier in association with the Tronadora ceramic complex (Hoopes 1994; Mahaney, Matthews, and Vargas 1994; Matthews 1984).

House forms. The shape of domiciles in Costa Rica was unknown for this time period for many decades. MNCR projects in the late 1970s took the first important step toward determining it by conducting hand-troweled horizontal excavations. A slight mound in a looted *finca* proved to be a double house with an open, unroofed, cobblestone central corridor (Snarskis 1978: fig. 28). The rectangular house measured 25 by 15 meters (El Bosque phase), with the entrance apparently at the less "prestigious" side and a larger roofed area at the other (Fig. 6). Tombs or caches with no definition of stone borders were found under-

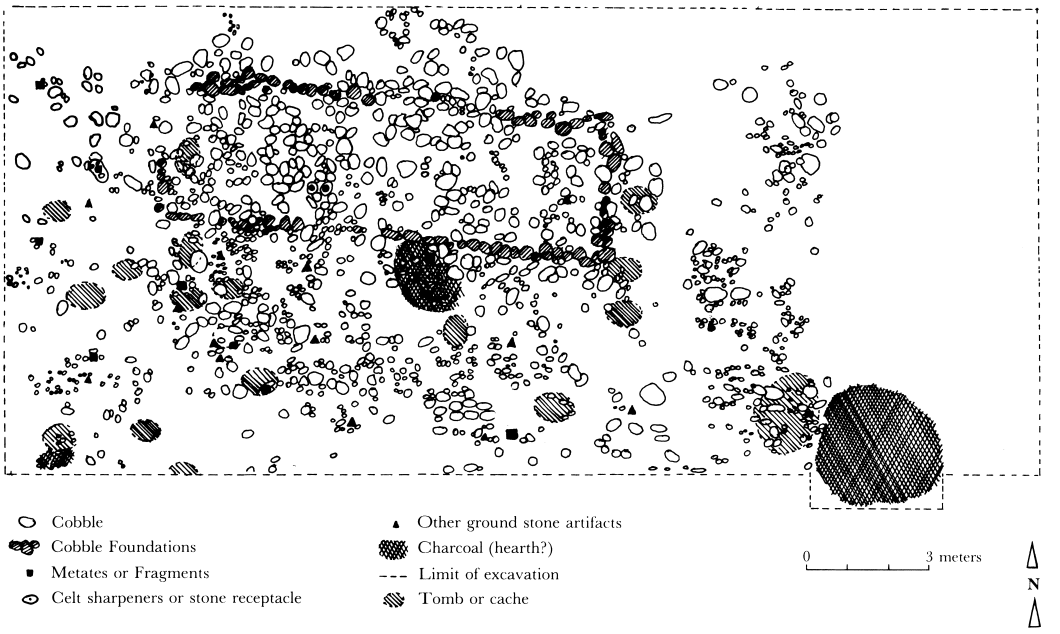

Fig. 7 Plan of Structure 2 at Severo Ledesma, probably a nuclear family house of the El Bosque phase (after Snarskis 1984b: 169, fig. 3).

neath each side, and in proliferation around the house. A major burial was almost two meters below the larger half of the feature (Fig. 6, to the right). It contained twenty-seven artifacts, among them many ornate ceramic vessels, flutes, *maracas*, an incomplete flying-panel metate plate, a necklace of jade disk beads with sporadic larger pendants, and a central jade avian pendant of about five centimeters in length, undoubtedly placed around the neck of the deceased (Snarskis 1992: 146, fig. 1). No bones or teeth were preserved. This larger house likely held thirty to fifty people, the structural divisions probably reflecting a gender division, females on one side, males on the other. This is more clearly defined in later cultures.

Given that jadeworking is likely to have diffused to Costa Rica from Mesoamerica, it is important to note that many northern house forms are remarkably similar to the El Bosque phase structure at Severo Ledesma. A recent published example by David Webster includes a "small Copan rural site" (1998: 32, fig. 10). The other smaller houses Webster illustrates find analogs in the main structure at Barrial de Heredia (CENADA), which had a rectangular or square house form as late as A.D. 800–1000. A small gold "eagle," along with considerable amounts of polychrome pottery from Greater Nicoya, was found beneath this structure (Snarskis 1992: 153, fig. 6).

Two smaller, perhaps nuclear family structures of the El Bosque phase were uncovered about 100 meters from the larger structure at Severo Ledesma. Each measured approximately 3.5 by 11–12 meters, that is, a spatial proportion of about 1 by 3, which is identical to the proportions of the sections of the larger structure (Fig. 7). Caches of ceramics and stone axes were found within and around these smaller structures, and two mortars—or perhaps celt sharpeners—were found in place within one. Given the climate and acidic soils, no bones

were preserved. This group of structures is all that is known to date of house forms, their spatial relation, hierarchy, and associated features. Similar, less well-preserved foundations are known from several sites in the Turrialba Valley. In the Central Highlands Pavas phase, fired adobe floors are known from many sites, but the house shape is often unclear, not being defined by cobbles or other stones.

Tomb forms. A row of clearly delimited tombs at Severo Ledesma have the same rectangular proportions as the single houses and the two divisions of the larger double house. Perhaps they were "houses" for the dead. Each contained a single jade pendant along with other ceramic and stone artifacts (Fig. 8a–b). The proportions of the single houses, the row of thirteen tombs containing jade, and the segments of the larger house are all approximately 1 by 3. A separate single-corridor tomb contained a quotidian metate, *mano*, pestle, several ceramic vessels, and a small "beak bird" jade (Guerrero Miranda 1998: 29, pl. 15; Snarskis 1978: figs. 126, 126A, 127, 127A–B; Snarskis 1981b: 205, no. 156). Pure El Bosque phase tomb shapes are mostly defined by the top two levels of river cobbles; the lower levels of the walls are often incomplete, and the tomb floors are a jumble of stones, sometimes with a cleared space where the body or bodies were placed. There were some stones in the top interiors of most tombs MNCR excavated, but none had a clear "lid."

Radiocarbon dates from El Bosque phase features in the Atlantic lowlands are 50 B.C. ± 90 (UCLA-2175D), from inside the large rectangular house; A.D. 150 ± 60 (UCLA-2113H), from inside a corridor tomb at the La Cabaña site, which has an El Bosque cemetery 400 meters from later architecture; A.D. 345 ± 30 (I-7514), from a stratigraphic pit at levels of 80 to 160 centimeters at Severo Ledesma, with transitional period sherds in upper levels. A carbonized maize cob of the race Pollo (W. Galinat, personal communication 1977) was found at 160 centimeters, dating to A.D. 350 ± 60 (UCLA-2175C), same as previous context; A.D. 425 ± 30 (I-7721), from a stratigraphic pit at Finca Patricia, a unicomponent El Bosque site near Guapiles. All dates were done on charcoal (Snarskis 1978).

Ceramics. El Bosque complex ceramics from the Central Atlantic Watershed are most often the El Bosque Red-on-Buff ceramic type (Snarskis 1976a, b; 1978), with slipped and polished red lips, interiors (vessel form permitting), and external bases; they show collars of naturally buff-colored clay, smoothed and often floated (Shepard 1956: 191), but left exposed around the vessel shoulder and neck. This area is sometimes left blank but is more often decorated by tool-impressed, appliqué, or red or maroon painted designs. Plastic decorative techniques include fingernail-, shell-, and reed-stamping, wide-line, round-bottomed circumferential incising, combing, scarifying, fluting or channeling, pattern burnishing, and a wide range of appliqué motifs, from simple pellets to baroque zoomorphic *adornos*. Red- and orange-slipped vessels also appear in the El Bosque complex, the latter usually with simple geometric maroon painted designs. To judge from observations of more than 1,500 complete vessels and hundreds of thousands of diagnostic sherds over twenty-five years, El Bosque ceramics from the Central Atlantic Watershed seem to be mostly red on buff, while the contemporary Pavas pottery from the Central Highlands and Pacific apparently has much

Fig. 8a Rectangular tombs at Severo Ledesma resembling contempory El Bosque phase house forms (after Snarskis 1984b: 170, fig. 4)

Fig. 8b Excavated rectangular tomb at Severo Ledesma. Note the axe-god pendant between the two rocks in the bottom third of the photo. The trowel points north.

less red on buff. Red- and orange-slipped large ovoid jars with maroon paint predominate, along with carinated bowls. In general, Pavas phase ceramics are larger and heavier than those of El Bosque. Zoned red on buff ceramics are common in the Mesosamerican Preclassic, but rare in northern South America.

Stone. Perhaps the most remarkable aspect of El Bosque lithics is that every stone artifact, no matter how common or lacking in ritual significance, is sculpted. I speak here of ground volcanic stone, as there are little firm data as yet on chipped flint-like stone artifacts and associated techniques. Mullers, or manos, are crafted in bar-of-soap shapes, usually with a finger-width circumferential groove to facilitate grasping; they were used on trough-shaped quotidian metates with a push-and-pull motion to grind hard seeds and grains, such as maize. Pestles are a common find in El Bosque sites, and almost always have a stylized animal effigy crowning the handle, or at least a bulb-like projection (Snarskis 1981b: 201, cat. nos. 135, 136). Stirrup-shaped mullers also appear, solid and rounded on all sides, and used with a rocking motion. Some have no further decoration (Snarskis 1978: fig. 33g), but many have stylized animal or human effigies on the upper side (Snarskis 1981b: cat. no. 137). More elaborate, probably ceremonial metates often show a smallish circular battered area corresponding to the working end of a pestle, most likely caused by the preparation of substances utilized in the performance of rituals.

The complex so-called flying-panel metates of this period (Fig. 9) tell much about the belief system of their makers (Graham 1993). First and foremost, there are no realistic, free-standing human effigies sculpted in volcanic stone known from the El Bosque and Pavas

Fig. 9 Flying-panel metate from the vicinity of Guápiles, Linea Vieja, Limón Province, Atlantic Watershed (h 46 cm) (after Jones 1998: 79, pl. 49). Photograph by Dirk Bakker, Detroit Institute of Arts, Founders' Society.

phases; virtually all portrayals of humans in volcanic stone sculpture are masked with zoomorphic faces and headdresses and form part of a composition incorporating a metate. While postures and body proportions are recognizably human, the masked, exaggeratedly large heads are always in the shape of some animal, probably zoomorphic deities. Other purely animal figures—often birds with a long, recurved beak holding a human head, likely a sacrificial victim—complete these compositions.

The fact that humans could be shown in ceramics, but not in large volcanic stone carvings, and only rarely in jade, speaks to a strong religiosity, with rather severely confined spaces for artistic expression, although the craftsmanship in all media is unquestionable. Men probably made stone and jade carvings, while women made most ceramics, to judge by ethnohistoric records and the potent symbolism and inherent power imbued in the former.

Transition and Overlap: Jade to Gold

All archaeologists know that the transition from one cultural phase to another is an interdigitation or overlap of cultural materials over a time span that may be short or long. In the case of Costa Rica's prehistoric changeover from jade to gold, we can place it approximately between A.D. 400 and 700. High-quality lapidary work in jade or similar hard, lustrous stones had virtually disappeared by A.D. 700, to be replaced in its symbolic role by objects of metallurgy, originating first in Andean South America as early as 1410 B.C. at the Mina Perdida site on the Peruvian central coast (Burger and Gordon 1998).

Doris Stone and Carlos Balser (1965) describe a cemetery of some 125 tombs in the locality of El Tres, Guácimo, Linea Vieja, which is in the Central Atlantic Watershed where the lowland plain begins (also the location of the Severo Ledesma site). Stone and Balser personally excavated only three tombs in this cemetery, the rest being dug by *huaqueros,* or looters, apparently without supervision. This site yielded several examples of slate-backed pyrite mirrors, some of which were inscribed with Maya glyphs and typical of those manufactured in southern Mesoamerica around A.D. 420–520. In two tombs (not excavated by Stone and Balser), this kind of mirror back was supposedly associated with jade pendants, ceremonial mace heads, El Bosque and La Selva phase styles of metates, and a series of gold or *tumbaga* artifacts. From one tomb came a gold frog, a "curly-tailed animal" pendant like those from Sitio Conte, Panama, and a double-spiral nasal ornament typical of those known from the Tairona and Sinú zones of Colombia. Stone and Balser wrongly assign this object to the Guayas, Ecuador style (Bray 1984: 326). The other tomb contained two gold frogs, a simply styled double-headed bird pendant, fragments of two curly-tailed animals, and a human figure pendant in the Quimbaya style (Stone and Balser 1965: 317–321). In fact, Warwick Bray (1984: 326) has described all the gold artifact types purported to come from this cemetery as "pure Colombian in spirit." The point of interest here, of course, is that they were found with material—jades, mace heads, and certain kinds of metates—characteristic of an earlier period. The three pottery vessels Stone and Balser (1965: figs. 24, 25) illustrate can now be reliably placed in the early part of the La Selva phase (ca. A.D. 400–600); one is a classic example of Zoila Red Incised (Snarskis 1978: fig. 42). It is unfortunate that this valuable information rests solely on the word of local looters.

Stone (1977: 168–169, fig. 228) illustrates an exquisite Quimbaya-style human head of gold, complete with false filigree diadem, from Hakiuv, Talamanca. Associated potsherds (Stone 1977: fig. 230) are modally similar to some in the early La Selva complex. The Talamanca ceramic sequence, however, remains undefined today. There is no discussion at all of the site, tomb types, or contexts, and all objects shown from Hakiuv were probably looted. A similar situation prevails regarding a "Coclé-style copper figurine" and a Galo Polychrome vessel from the La Fortuna site in the San Carlos region. The only information of some value that can be gleaned from these early metallurgical finds is that they fall within the A.D. 400–700 period and may have been imports.

At Tatiscú near Cartago, Carlos Aguilar Piedra (1981) excavated a fragmented copper or tumbaga anthropomorphic pendant "in the Coclé style." It was found within a square pit of cobbles and associated with a mass of purposefully smashed *floreros* (long-legged tripod ceramic vases). The practice of smashing floreros above tombs has been observed at Pesa Vieja (Snarskis and Guevara 1987) near Cartago and at the early La Selva phase cemetery at La Montaña, near Turrialba (Snarskis 1978). At the latter, one of the corridor tombs defined by cobbles contained a necklace of soft chalk disk beads interspersed with small jade pendants and one of resin, as well as a larger, high-quality jade central pendant. All three of these sites contained early La Selva or Curridabat phase ceramics and may be considered contemporary. More extensive work could well have yielded jade/greenstone and gold at all three sites. Two radiocarbon dates on carbonized maize found inside ceramic vessels from the cemetery at La Montaña were A.D. 250 ± 60 (UCLA 2113-C) and A.D. 650 ± 60 (UCLA 2113-E).

Although it falls outside the Central Region, a recent discovery at the site of Finca Linares, Guanacaste, must be mentioned in that it is the only scientifically documented excavation in Costa Rica where jade-like lapidary work (serpentine) and gold and tumbaga pendants have been found in direct association (Herrera Villalobos 1998). More than fifty mortuary features have been identified there. The burials were capped with ill-defined clusters of cobbles of various sizes; some (including the one described here) had markers of columnar basalt. Burial 18 contained a single individual accompanied by twenty-two ceramic vessels, three effigy-head curved metates with trapezoidal tripod supports, two "jades," three metal pendants, and one polished axe. The "jades" (actually serpentine) consisted of one narrow, crudely reworked simple vertical pendant, whose engraving style echoes that of an avian axe-god, and a small, plain rectangular plaque. The metal objects were all produced by lost-wax casting: a small frog, a small bell, a complete anthropomorphic pendant with upraised arms and spirals on the hands, a triangular necklace, and a headdress composed of a central raised rectangular element and false filigree ear-like elements, as well as clear ear flares (Fig. 10). All these features, along with the voluptuous semi-flexed legs, are echoed closely in an Initial Group female figurine (Cooke and Bray 1985: 42, fig. 12a; Lothrop 1937: fig. 147). Citing Bray (1981, 1984), Anayensy Herrera Villalobos (1998) argues "These characteristics are considered to be part of the early Quimbaya style." All the gold objects found in the tomb at Finca Linares belong to Cooke and Bray's Initial Group (Cooke and Bray 1985: 41–42), which appear to have been imported into central Panama from the Quimbaya, Sinú, and Tairona regions of Colombia around A.D. 200–500. Radiocarbon dates from four Panama-

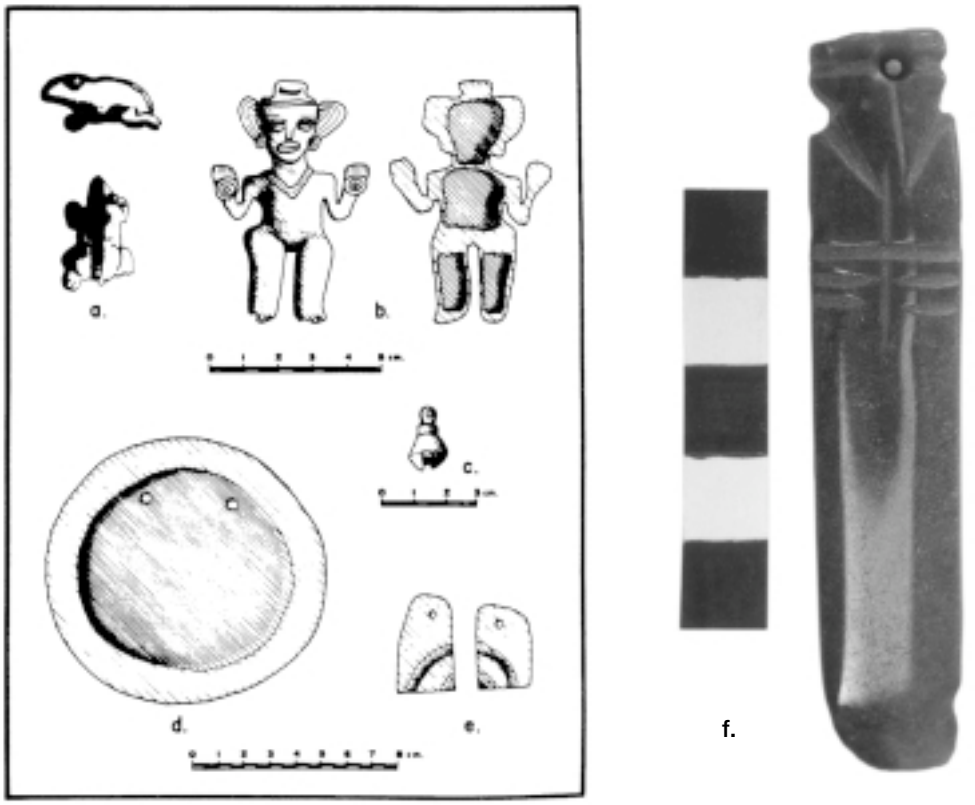

Fig 10 Metal (a–d) and jade (e, f) offerings from a burial at Finca Linares, Guanacaste (after Herrera Villalobos 1998).

nian sites yielding Initial Group metal objects average about A.D. 400 (Cooke and Ranere 1984: 284).

The exceptional range of pottery vessels in the Finca Linares burial includes culinary types Yayal Brown, Los Hermanos Beige, and Monte Cristo Brown, as well as Carrillo Polychrome, Galo Polychrome, and two early varieties of Mora Polychrome. There were also fragments of vessels of Chavez White-on-Red and possibly Guinea Incised. Most of these can be placed in the transitional period of A.D. 400–700.

Features and Artifacts Associated with the Jade-Gold Transition

Site types. Like sites of the El Bosque and Pavas phases, those occupied ca. A.D. 400–700 were apparently extensive and achoritic, given the nature of the pertinent ceramic sherd scatters. The preference for fertile, relatively flat land appears to continue, with no clear evidence of boundary maintenance. Virtually all sites that have been scientifically excavated have been cemeteries, although sherd scatters extend well beyond them. This fact gave rise several years ago to a hypothesis by several MNCR and UCR archaeologists that early La Selva/Curridabat pottery was merely a special mortuary ware of the El Bosque and Pavas

phases, respectively. The fact remains, however, that the El Bosque phase type site of Severo Ledesma did not yield a single La Selva ceramic complex vessel and, conversely, the La Selva phase cemetery at the La Montaña site did not show a single example of El Bosque ceramics. Both sites produced hundreds of pottery vessels, inside and outside tombs. There are, however, sites with tombs that display a combination of El Bosque and La Selva phase ceramic types (for example MOPT-21 near Guácimo; Snarskis 1978). This confirms the hypothesis presented here of the coexistence of jade and gold (and other media) somewhere between A.D. 400–700.

House forms. As noted above, a secure house form has not been documented for this transitional period, although much disturbed, seemingly rectangular or oval foundations of irregular cobbles have been observed at sites in the Turrialba Valley. It is fairly certain, however, that the change from rectangular houses to circular ones, with all its implications for changing belief systems and a new cosmogony, or worldview, began during this period. In this regard, there are two sites that provide interesting, if perplexing, insights.

La Fábrica de Grecia, in the western part of the Central Valley, was a village of circular domiciles with stone cobble foundations and high concentrations of cane-impressed fired adobe (Guerrero Miranda 1980; Snarskis 1984a: 156–157). It appears that adobe was plastered 3 to 5 centimeters thick from ground level to a height of 40 to 50 centimeters on the lashed cane walls of houses. The most prevalent pottery at La Fábrica was late Curridabat phase, approximately A.D. 600–800, with many characteristic long, hollow-leg floreros, globular jars, fine-paste maroon-slipped bowls, chimney-collared jars with short, solid tripod supports and multibrush white paint (Mercedes White Line), and resist-decorated Tuis Fino (Aguilar Piedra 1972; 1976). This pottery is considered to be coeval with the circular house foundations of stone which, coincidentally, show the first clear signs of a more nucleated village type.

La Fábrica, however, is a multicomponent site whose earlier Pavas phase occupation left fired-adobe floors, tombs, and an elite burial that contained three jade tubes and a mace head laid out on three round-plate, tripod metates (Guerrero Miranda 1998: 34, pl. 20). Two copper bells and deer antlers were found next to one of two opposing, cobble-paved entry ramps to the Curridabat B phase principal house. Given the predominance of late Curridabat ceramics at the site, one must presume that the circular structures and the copper bells pertain to around A.D. 600–800; unfortunately, there are no reliable radiocarbon dates for what appears to have been a seminucleated village. There is one date of A.D. 425 ± 80 (UCLA-2167B), but it is from carbon at a depth of 117 centimeters, that is, where the Pavas phase features and ceramics were concentrated.

Tomb forms. Corridor tombs—some 12 meters or more in length, formed of parallel lines of stone cobbles, and arranged in ranks of twenty or more, are known from early La Selva sites, notably the cemetery at La Montaña (Snarskis 1978: figs. 137a–c, 138, 139), but also from several other sites along the Linea Vieja and in the Turrialba Valley. These corridor tombs are constructed more haphazardly than those of the earlier El Bosque phase.

The Pesa Vieja site and several others on the plain south of Cartago are characterized by carelessly formed clusters of cobbles of disparate size, sometimes approximating parallel lines or an oval or circular shape usually not more than 3 to 4 meters in diameter. This tomb type is sometimes marked by *mojones*, most frequently segments of natural columnar basalt. Such is the case at the recently identified site of Pan de Azúcar, at the western end of the Central Valley near Atenas. The tomb described for the Tatiscú site—cobbles arranged in a rough square—was probably a version of this tomb type.

At the La Montaña, Tatiscú, and Pesa Vieja cemeteries, one or more tombs had large quantities of ceramics, including many long-legged tripod vases with soot deposits on their exterior and interior, purposefully smashed on the tomb tops, perhaps indicative of funeral *chicadas*, or drunken feasts such as those described for the indigenous peoples of Talamanca (Bozzoli de Wille 1979; Stone 1962).

Stone. Given current evidence, there do not appear to have been changes in carved volcanic stone as drastic as those in ceramics, when compared to the previous El Bosque and Pavas phases. Tripod metates can be rectangular or circular, with some of the former more than 1 meter in length and the latter more than 50 centimeters in diameter. Both shapes always have notches symbolizing human heads, and the round versions may have two somewhat larger human heads carved on opposing edges (Guerrero Miranda 1998: 32, fig. 15, center; Snarskis 1979). These types always have a raised edge and may be considered as ceremonial objects. A new metate type appears also: oval, with a rather deep plate, tetrapod supports (for the first time), which may take the form of whole human figures, female or male, with arms down along the sides and hands meeting at the navel (similar to figural jades). These oval metates range in size from around 30 centimeters to 1.5 meters or more; the small and medium versions carved in a much finer grained stone have carefully detailed human heads along their edges, and often a V-shaped motif at each end of the long axis, a motif that also appears on the headdresses of some realistically sculpted warrior figures. Another oval metate type, usually small, has tetrapod supports formed by the flexed legs of a mammal, perhaps a coati mundi, with paws in mouth, forming V-shaped supports. This type may have appeared closer to and after A.D. 800 (Snarskis 1978: fig. 152b).

Loaf-shaped manos are generally flatter and thinner. Stirrup mullers have a more triangular (as opposed to rectangular) opening and are smaller but still with a stylized effigy or bow carved at the top (Snarskis 1978: fig. 148b–c). No fragments of the flying-panel metates have been found in sites of this time span, but the fact is that the only recognizable fragment of such metates found in a controlled context is the example from Severo Ledesma. Flying-panel metates may have continued slightly beyond A.D. 500. Chipped waisted axes of slate or volcanic stone continue (Snarskis 1978: fig. 146b, 146s), as do polished hard stone celts. A teardrop-shaped polished axe, always of dense black stone, may be unique to this time span (Snarskis 1978: fig. 146a–p).

It is likely that the first freestanding stone sculptures depicting realistic, unmasked humans appeared between A.D. 400 and 700. A type that has not yet been found in context in any period portrays men with the long, upturned crocodilian snout so often seen on ceram-

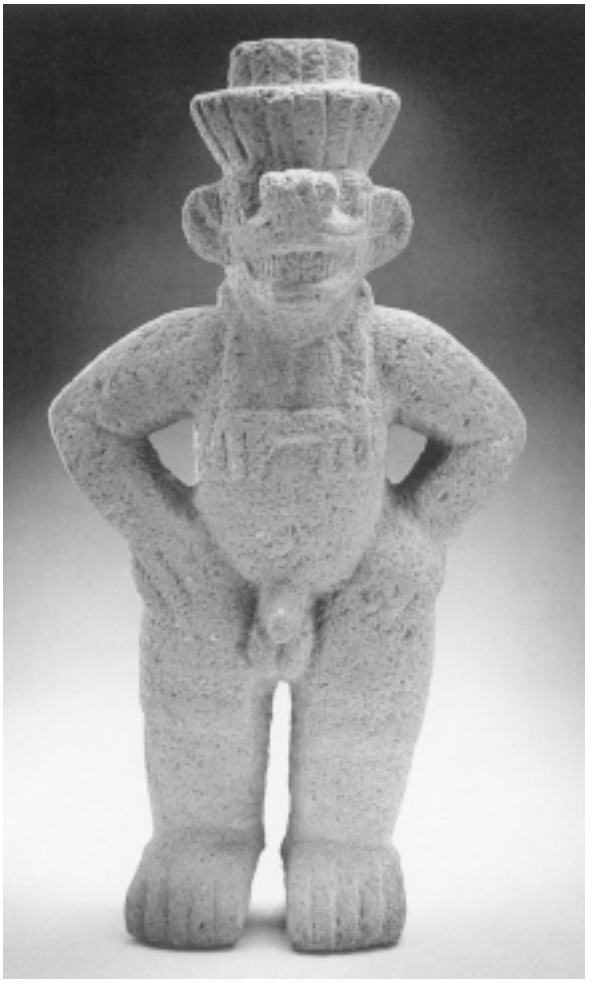

Fig 11 Carved stone figure with crocodile/alligator mask and headdress wearing tubular jade beads from the Atlantic Watershed subregion. (h 37 cm) (after Snarskis 1981b: 212, cat. no. 198). Photograph by Dirk Bakker, Detroit Institute of Arts, Founders' Society.

ics and jade as well. The "upside down wedding cake" headdress, which is invariably associated with crocodile or alligator effigies, is also present on these stone figures: it has not yet been interpreted or understood. The masked male figures, some with prominent genitalia, may strike a jaunty pose with hands on hips (Snarskis 1981b: 212, cat. no. 198) or place their hands opposite each other at the level of the thorax or navel, much like the pose observed on many jade axe-gods (Snarskis 1981b: 212, cat. nos. 196, 197). The most interesting aspect for archaeologists is that all stone figures of this type wear a jade necklace of large tubular beads (Fig. 11). These necklace representations are rare in all media, and in this case show clearly how the extraordinary long jade tubes, usually with concave barrel-shaped elements or perforations, were used: they served as a horizontal anchor across the chest from which other beads were hung vertically, either from the perforations or tied to the concave elements. Decades ago, the fanciful idea that these jade tubes (which can be more than 40 centimeters long) were intended as "breast supports" was added to the literature (Balser 1958: 13; Balser and Instituto Nacional de Seguros [Costa Rica] 1980: 80). Rather, they were probably worn

by male individuals of significant authority, perhaps analogous to the figures on Altar Q at the Maya center of Copán. Although not very realistic, what are probably meant to be jade pendants appear engraved and painted in black on some Rosales Zoned Engraved human figurines from Guanacaste (Snarskis 1981b: 17, pl. 2). While some good quality jade pendants are known, from this time they tend to be smaller on average, and lesser greenstones increase in frequency, including chalk-like disk beads, known as *tiza*.

Ceramics. Some of the basic ceramic types and modes identifying this period already have been described above. Key among them is the appearance of resist-painted (smoked) decoration, prevalent in Colombia for a large part of that ceramic sequence but absent in pure El Bosque and Pavas pottery. The resist technique disappears after ca. A.D. 1000 in the Central Region, but flourishes after that date in the Diqúis subregion on small trichrome *ollas*, as on some Colombian examples, Diquís always being more attuned to southern traditions.

El Bosque and Pavas ceramics almost always have sharp, crisp basal breaks and rim or lip angles, but these become rounded-off and softened in the transitional period. An appliqué bead often replaces the previous angular basal break on El Bosque Red-on-Buff bowls and plates. With the exception of the very thick rounded lips of Turrialba Coarse jars—extremely coarse paste with particles up to 0.5 centimeters (Snarskis 1978: fig. 43)—rims and lips are less expanded than in El Bosque and Pavas. The heavy, long solid-leg Ticaban Tripods (Snarskis 1982: 96–97) are replaced by the much more gracile Africa Tripods of the La Selva phase, always with animal or human adornos, some very complex, on the support shoulders; the long, out-curving supports are at least half-hollow, with ceramic balls as rattles (Snarskis 1976a: 109f–h; 1981b: 210, cat. no. 187; 1982: 103).

Fine incising or engraving appears for the first time as a frequent decorative technique, with totally new motifs, on a dark brown slip (unknown in El Bosque), often curvilinear with sharp triangular points or hatched triangles. These are saurian, crocodile, or cayman stylized representations, as are most of the resist-painted motifs. The most frequent incised or engraved pottery, often with resist decoration as well, is the Zoila Red Group (Snarskis 1978: fig. 42; 1982: 104). The bichrome (usually white-filled) Mila Red-Orange Engraved is seen less often (Snarskis 1982: 106) and there is also a precisely engraved dark brown slipped type that is also white-filled—Chitaria Incised/Engraved (Aguilar Piedra 1972; 1976; Snarskis 1982: 108). Roxana Shiny Maroon-on-Orange has geometric or feathery, spiky designs painted on the interiors of dishes or bowls (Snarskis 1982: 102; 1978: j–l). Crocodilian motifs predominate, and supports are usually annular, solid loops, or stubby hollow ovoids with circular perforations on the larger bowls (20 cm in diameter). El Bosque and Pavas never had painted designs on vessel interiors nor globular hollow supports with circular holes.

The hallmark of the La Selva phase ceramic complex is the La Selva Sandy Appliqué Group (Snarskis 1978: fig. 45; 1982: 104), characterized primarily by medium-sized ollas with short or large right-angle everted rims and a wide range of plastic decoration, mostly carelessly incised triangles and appliqué pellets (crocodile symbols), and sometimes purple paint and white highlights. It has its analog in the Curridabat complex in the Central Valley

Fig. 12 Curridabat phase ceramics (A.D. 300–500) (after Lothrop 1926: 32, pl. CLXXI)

(Fig. 12). Sometimes seen are incurving rim vessels with annular supports, small double ollas connected by an arching handle, and shallow dishes with outsize hollow effigy supports. Stylized crocodilian motifs predominate. Red-on-Buff pottery virtually disappears, with the exception of some La Selva Sandy Appliqué versions, often misshapen and crudely modeled. Whereas El Bosque had only one paste type, the La Selva complex has several, the most strikingly different being the cream-tone, very fine, rather soft paste of Anita Fine Purple (usually engraved) (Snarskis 1978: Fig. 46a–b), the rocky paste of Turrialba Coarse, and even a soft organic-tempered paste that makes up some vessels of Tuis Fino and some long-legged floreros. The Santa Clara Figurine Group of the El Bosque phase continues virtually unchanged, although more objects are red slipped. Further, slit-eyed, hollow female figurines that are freestanding, orange slipped, and much larger, up to around 20 centimeters, appear first at this time, some seated on round stools and holding infants (Snarskis 1982: 109). Many examples of this figurine type have been discovered during ongoing salvage excavations at Pan de Azúcar (Felipe Sol and Tatiana Hidalgo, personal communication, August 2000). As these figurines are so distinctive, a new type has been established: Pan de Azúcar Figurines; they were also found in some quantity at La Fábrica de Grecia.

This impressive ceramic variety, different tomb forms, changes in metate and mano forms, the first freestanding stone sculpture, the first circular houses, and a shift in settlement patterns are all contemporary with the first imported metal artifacts into Costa Rica, with

metallurgical technology undoubtedly following shortly thereafter, around A.D. 600–700, and several centuries earlier in Panama. Says Bray (1984: 326), "Once the technical knowledge had been introduced into the Isthmus, a whole series of local metallurgical styles emerged, incorporating regional ideologies and sharing designs and iconography with the local pottery styles" (see also Bray 1981; Cooke 1984). Bray continues, "From that time onward, Colombia and the Isthmus constituted a single technological province, characterized by a preference for cast jewelry and virtuoso work in false filigree. Copying was rife, and there was a thriving trade in all directions" (Bray 1984: 326). Bray thinks that trade routes may have included seagoing trade in the Caribbean from Colombia and Panama into Costa Rica, a route that may have ferried technological specialists as well (Bray 1981: 154).

Gold: Its Relative Chronology, Sourcing, Geocultural Distribution, Symbolism, and Associations

For the Spanish conquistadors and other Europeans of the sixteenth and seventeenth centuries, gold was the pipe dream of unimagined wealth, symbol of monetary stability and tangible assets, concrete "heavy" money. Indigenous peoples of Lower Central America and Colombia, however, viewed gold and its alloys quite differently: as symbols of supernatural deities and parasupernatural shamans, a substance that gave them insight into the beyond, a key to the "right way," a key to the prevailing cosmogony. They had classifications of metal objects based on weight, color, scent, flavor, and brilliance that were considered even before entering into the ramifications of the effigy itself and its symbolism. Nicholas Saunders (in this volume) proposes that "indigenous valuations of gold, silver, [copper] and their alloys derived from prior established ideas concerning the 'aesthetic of brilliance' that hitherto had been expressed solely by minerals, shells, plants, animals [iridescent feathers], and natural phenomena, as they appear in nature, and as artifacts. Metals were received into a preexisting, age-old, shamanic and multisensory world of phenomenological experience, that clearly had little in common with fifteenth-century European or indeed modern notions of commercial wealth" (emphasis added).

The reflective, flashy, and superficial brilliance of burnished gold can rival the sun like a mirror, and, in Costa Rica, gold ornaments were not only used in rituals conducted by special personages, but were also worn into battle to impress and intimidate the enemy. In Costa Rica, Panama, and Colombia, the primary symbolism of gold is the sun and celestial phenomena in general. Further, Bray (in this volume) cites "configurations of symbolic meanings" that link gold, the sun, light, a fertilizing (male) solar energy, and priestly control over these things. Drawing upon Gerardo Reichel-Dolmatoff's extensive work, Bray notes that the Colombian Kogi people refer to the sun as Mama Nyui, the same root found in their word for gold (*nyuiba*). Gold, particularly tumbaga, was produced using fire and is tied to radiance and heat.

Contrast this with jade, which symbolized cool, green pools of water, reflected green maize plants, fertility, seed, and quetzal feathers. In Costa Rica, María Eugenia Bozzoli de Wille (1979), through interviews with Bribri and Cabécar peoples, has been able to learn

that these indigenous groups had a dichotomy of things "above" and things "below." The realm below housed saurians, snakes, toads or frogs, all things female, and water. (Note that jade would fit well in this mythical category; it was polished using water and is identified with coolness.) Things above included monkeys, large birds (eagles and buzzards), jaguars, bats, the principal deity, and all things male in general. The above-below dichotomy is mediated toward synthesis by the lives of the Bribri on earth. Only members of the monkey and jaguar clans were eligible to become caciques.

In Costa Rica, gold is and was found primarily in placer deposits in riverbeds. The southwestern Osa Peninsula was apparently the richest source of gold, but the metal is also found in the Central Pacific Watershed and in some parts of the Nicoya Peninsula, where all that glitters in some beach sands is indeed gold, but practically unrecoverable for the most part (Frederick W. Lange, personal communication, 1977).

There was a tremendous difference between the technologies and final products of the jadeworking peoples and the metallugical industries of gold and its alloys. With the rise of metallurgy, it is possible that previously marginalized tribes, clans, and other members of society came somehow to dominate access through trade or otherwise latched onto the new technology and became elites, mediators between the supernatural and the real worlds. The suite of new cultural traits that came along on the coattails of the new metallurgical technology was even more striking than metallurgy itself.

As stated earlier, metallurgy had begun in Andean South America around 1400 B.C. Jade appeared in Mesoamerica ca. 1200 B.C. and in Costa Rica around 300 B.C., to be followed by gold ca. A.D. 500 or slightly before. Why did the reverence for jade and its skillful carving techniques precede gold in Costa Rica by some 800 years? One can only assume that there were trade networks in place between Mesoamerica and Costa Rica before jade carving began in the latter. Did the difficult tropical forests of the Darién Gap frustrate trade with the south? Probably not, as this kind of environment was home for the Central Atlantic Watershed Costa Rican peoples. It must have been a matter of established custom, the "right thing to do," when voyaging or trading with northern cultures. This contact was strengthened when indigenous Costa Ricans took jade and similar greenstones to their hearts and began almost a thousand years of prodigious lapidary production.

It is important to remember that with time, the population increased in the Central Region of Costa Rica and certain natural resources decreased. No natural disasters are known during the period around A.D. 800–1550 other than those in the Arenal area (Sheets et al. 1991) and one which left a 10-centimeter layer of ash on Bay of Culebra coastal sites ca. A.D. 1000 (Lange 1976). It is virtually a certainty, however, that earthquakes, floods, droughts, and other volcanic eruptions occurred.

Features and Artifacts Associated with the Goldworking Period

Site Type. Sites possibly reveal the most striking changes that coincided with the rise of gold as a high-status ritual material. There was an obvious site hierarchy, but, unlike Bray (in this volume), it is not possible to say whether there were three levels or more or fewer. Some

larger sites, such as Guayabo de Turrialba, were clearly nodes of trade and political-military dominance, situated on the border of two environmentally different subregions, and with cobblestone roads extending for many kilometers, leading to lesser sites, and with access to the Central Valley as well as the Atlantic lowlands. Frank Findlow and his colleagues (Findlow, Snarskis, and Martin 1979) discern an interesting trend in Pre-Columbian settlement patterns for the central Atlantic subregion. Early ceramic sites (1500–500 B.C.) were located near biotopes important for hunting and collecting, but sites pertaining to other periods up to A.D. 1000 revealed an increasing preference for alluvial farmland. In the five or six centuries before the Spanish conquest, however, the site location pattern becomes random, indicating that factors other than agriculture predominated. These factors were likely sociopolitical boundaries and defense. Guayabo is a good example. It is bordered on one side by a sheer 250-meter cliff, on another by a steep mountain slope, and on a third by a small river. Guayabo had only one main access route up a ridge coming off the Turrialba volcano, where the principal cobble road ascends. The two-meter-wide road travels several kilometers from a lesser village, reaches two 4-meter-wide stairways flanked by two large guardhouses, and then widens to 9 meters. The trajectory of this entry causeway crosses a plaza and ends in line with one of the two staircases leading up the main, circular, stone-faced mound, 4 meters high, which during Guayabo's occupation supported a conical-roofed circular house about 20 meters high, itself echoing the cone of the Turrialba volcano far above.

The entry experience to Guayabo must have been impressive and intimidating. It is not known what was placed around the plaza. There were likely caches or burials to judge by the much smaller La Cabaña site outside Guácimo on the lowlands, where several small deposits of special artifacts were found that included ocarinas, figurines, and miniature vessels (in two cases inside much larger tripod urns with large appliqué trophy heads). At Guayabo, there must have been all this and more, perhaps wooden totems, life-size stone sculptures, shrunken heads, skulls, and so on. A boulder with a depression carved out for offerings sits at the foot of the staircase of the main mound. This large staircase was apparently the access for "outsiders," while another staircase, facing the interior of the site, was presumably for the inhabitants.

In the principal mound, Aguilar Piedra (1972) found two tombs, one with a gold avian pendant, trade sherds from Diquís and Nicoya, and long columnar basalt tenons that held the mound in place. Because Aguilar Piedra took his carbon samples from the fill of the main mound, they are contaminated by earlier occupations, the first of which was the much older La Montaña phase. Tombs beneath house mounds are common in Costa Rica and are reminiscent of the Nahuange tomb described by Bray (in this volume, citing Mason 1931: 32–36), where a "rectangular grave lined with stone slabs and sealed by capstones" (Costa Rica's stone cist tombs of this period) was found within a circular mound with a retaining wall.

Perhaps the most fascinating aspect of settlement patterns in the period when gold dominated and jade had almost completely disappeared was the appearance of a distinct city or town "plan," in essence a shared mental template for architecture and site organization widely disseminated throughout the Central Atlantic Watershed and Central Valley, and apparently the central Pacific region as well, not to mention the Diquís subregion in southwest Costa Rica, which was always more southern-oriented.

In the sparest terms, this architectural template consists of a central node of features, an "elite precinct," composed of a major cobblestoned causeway, usually the main entry to the site, which eventually debouched into a square or slightly rectangular open plaza entirely free of stones and lower than the surrounding landscape. This is, in fact, the pit from which earth was removed to build up the major, and highest, circular house mounds, always stone faced for retention of fill. Invariably, there are two major mounds, one higher than the other. No matter their respective heights, which varied according to total site size, the diameter is almost always approximately 20 meters. The highest mound typically displays a scatter of sherds of decorated, special-purpose, and imported ceramics in the interior floored area and especially around its exterior edges. A central hearth is always in evidence. Prestige burials or caches that often contain gold usually are located beneath the living floor surface. There may be one or two entrance stairways or ramps. This was probably the domicile of the de facto rulers of the site, be they caciques, shamans, or generally high-status persons. The open square plaza was likely the site of meetings with "others" for commercial or political purposes, as described by Ibarra Rojas (1995; 1999) for ethnohistorical times, as well as for ceremonies, and dances. The second major house mound, also stonefaced, was always lower, although its diameter was sometimes slightly greater, and sometimes varied slightly in shape (Snarskis 1984a; 1984b; 1978).

The Spanish chronicler Fray Augustín de Cevallos sent to the king of Spain in 1610 a report in which he describes several customs of the people then living in the central Atlantic lowlands of Costa Rica: "They live in palenques, which are forts built in the native fashion . . . the chiefs have the women that they desire *all in the same house* and the common people generally have one" (Lothrop 1926: 446, emphasis added). There seems little doubt that the formal and functional differences of the two "main house mounds" in this era corresponded to an accepted social division: the high-ranking wives or concubines in the house mound of lower height (always with multiple hearths, metates, and manos) were dedicated to the maintenance and sustenance of the "ranking class" housed in the adjacent higher mound (Snarskis 1992: 154, fig. 7).

Guayabo de Turrialba is the type site of the goldworking period (Aguilar Piedra 1972; Fonseca Zamora 1979; 1981). In it, one sees a series of architectural features that allows extrapolation about cultural customs and sociopolitical organization. There is one principal entryway and two lesser roads of cobblestone; one of the latter goes over the small river on the north side and the other skirts the mountain slope to the west. It is evident how, once within the site, things like size, height, position, and cultural access were carefully controlled.

Guayabo at this time had large open aqueducts that funneled water from diverted stream beds and springs nearby, huge *laja* (volcanic flagstone) bridges, and underground water conduits of lajas following the trajectories of the street lines to control the great water flow inherent to the subregion. Interrupting the secondary entrances were circular pools of water directly in the middle of the roadway. These restricted direct access to the inner segments of the site. Guards or some other barriers may have been there too. This pattern becomes clear as one approaches the elite precinct, with additional circular pools and a large, 15 by 8 meter rectangular pool (fronting the roadway and across from the second main

staircase off the main mound). Because much of the site remains unexcavated, it is not known how complex the system of underground aqueducts and pools was during its Guayabo prime. There is an aqueduct beneath every known paved causeway. Other large house mounds were built away from the "spiritual center" of Guayabo, perhaps indicative of other high-ranking precincts. It is apparent that water was key in many symbolic ways. For instance, smaller (1.5 by 2 meter) catchments or wells appear around the principal mound and nearby large house foundations. They seem to act as artificial springs for the elite.

Approaching the elite precinct of Guayabo from within the site, one sees circular pools of water in the middle of the cobble pavements only 12 to15 meters from the main mound. One of these is spanned by a laja stone bridge, a giant slab of volcanic rock estimated to weigh more than 10 tons, that was the likely entry for the elite. A series of banked or terraced smaller circular houses sits on a hill to the southwest, toward the cliff. Eight to ten stone statues in human form, only 20 to 40 centimeters in height, were found near one of them. Nearby, and perhaps fallen away from its original position near this mound, is a large boulder with high-relief sculptures of a split-tail crocodilian on one side and a jaguar on the other (Aguilar Piedra 1972). Guayabo also has communal water basins, rectangular in shape (approximately 5 by 10 meters) and fed by springs channeled into ducts beneath cobbled pavements. These drained into the natural riverbed to the north, so there was a constant renewal of fresh water through them at all times.

Sites with an elite precinct city plan in the Atlantic Watershed include Guayabo (Aguilar Piedra 1972; Fonseca Zamora 1979; 1981), Najera (with a circular plaza, Kennedy 1968), La Zoila (Snarskis 1978), Las Mercedes (Hartman 1901; Stone 1977), Costa Rica Farm (Stirling 1969; Stone 1977), Parasal (Herra Villalobos n.d.), La Cabaña (Snarskis 1978; 1984a; 1984b) and Cubujuquí (Gutiérrez González and Mora Sierra 1988), the last in the Sarapiqui subregion. In the Central Highlands, these include Ta'Lari de Pacuare, at the northernmost part of the Talamancas (Hurtado de Mendoza and Gomez F. 1985), Aguacliente de Cartago (Valerio Lobo 1989; Valerio Lobo, Solís Alpizar, and Solís del Vecchio 1986; Vázquez Leiva 1989), and Barranca (Chávez Chávez 1994). Sites of this type are also found in the Central Pacific Watershed, including Lomas Entierros (Solís del Vecchio and Herrera 1991) and Pozo Azul (Corrales Ulloa 1992; Corrales Ulloa and Quintanilla Jiménez 1996), suggesting a pervasive belief system and worldview that was shared by the inhabitants of these three central subregions.

To confirm the view that this group of architectural features, related mythology, and goldworking all came from northern South America and Panama around A.D. 600, prior models from that area must be found. Among the most obvious is Buritaca 200, *la ciudad perdida* (Cadavid Camargo and Groot de Mahecha 1987; Groot de Mahecha 1980; Soto Holguín 1988). With its cobbled causeways, circular stone-faced house foundations, large terraces, and strategic location, one cannot help but feel that such architectural customs, and probably belief systems, came to the Central American isthmus along with metallurgical technology (Bray, in this volume). To these elements we may add the appearance of resist-painted ceramic decoration and a shift in major long-distance trade routes.

House forms. Circular houses of the goldworking period are described above. Other symbolic factors may have contributed to this drastic shift from quadrangular houses. A change in house form reflects a change in worldview. House form was never casual, but mirrored the accepted cosmogony. The Kogi of Colombia viewed the universe as a giant egg with nine levels, or sections, with humankind mediating the middle section (Reichel-Dolmatoff 1985; 1990). These sections, of course, are circular, and a similar mythology may have prevailed in Pre-Columbian times.

The lesser houses in gold period sites in the Central Atlantic Watershed are simple circular house foundations of large river cobbles (30 to 40 centimeters), over which a pole or cane and thatch circular structure was erected. Sites distant from large rivers employed field stones. In several sites, there is evidence of adobe around the lower part of the cane walls (Guerrero Mirando n.d.), but in others this does not occur. The circular stone foundation kept out pests and humidity. Houses were almost certainly conical roofed, with poles apt for hanging hammocks (González Chaves and González Vásquez 1989; Stone 1962). Four to five hearths are usually found on the secondary main mound, evidence of its domestic focus. Walls and roofs had openings through which debris could be passed. At La Cabaña, great quantities of decorated and polychrome trade sherds were found around the exterior perimeter of the main mound, indicating cleaning of the roofed floor area. In examples of larger, higher circular mounds, stairways of cobblestones were used. In smaller house circles, stone ramps sufficed. On the main mound at La Cabaña, the staircase was 5.5 meters wide, almost as wide as the Guayabo stairs. It led directly to the empty plaza, facing the major incoming cobble road. It must be emphasized that the river cobbles used to make the road, as well as those shoring up the main mounds, are extraordinarily uniform in size, all oval, and 30 to 40 centimeters in length. This represented a concerted effort at scouring the riverbed, probably for kilometers, to find the right size cobbles to give the visible architecture symmetry. A similar concern is represented by the construction of some stone cist tombs. La Cabaña extended up along the Guácimo River, but several features have been eroded at its curve fronting the site. A stairway to the river that likely existed has probably been washed away, as have other house features (Snarskis 1984a; 1984b).

In the change from a quadrangular house shape to a circular one, the Mesoamerican tradition of assigning specific deities and powers to the four cardinal points was altered (although not abandoned, at least among the Kogi of Colombia). The round shape of houses probably related to something representationally akin to the Kogi universal egg and the circular shape of the sun. There may have been a conflict at one point about which supernatural concepts reigned. As with jade and gold, there must have been a period during which different house forms coexisted; this is more apparent in the Central Valley.

Tomb forms. The characteristics of the tomb forms of this goldworking time period are so striking that early archaeologists named the entire period Stone Cist (Lothrop 1926). In Colombia, variations of stone cist tombs appear as early as the centuries around the time of Christ, before and after, for example at San Agustín (Duque Gómez and Cubillos 1988: 100–192, fig. XII). These tombs are usually more carelessly constructed, with lajas and other stones

of disparate sizes. They are called *tumbas de cancel* in Colombia, and they frequently have lateral chambers, like some shaft tombs. They almost always have some sort of stone, either cobbles or lajas, placed vertically (*de canto*), as well as floors or lids of stones. Stone cist tomb types in Colombia predate the Costa Rican examples by some 400 to 700 years. The corridor-shaped tombs of the El Bosque phase in the Central Atlantic Watershed continued into the early La Selva phase cemeteries, and the formal difference is apparent. El Bosque never had stone cist tombs; these came later, with the transition from jade to gold.

There are smaller oval or circular stone mortuary or cache features that have been observed for this period, but they almost never form part of a cemetery; it is likely that they were caches outside houses or peripheral to stone cist tombs. These latter frequently contain the remains of more than one individual, as if they were marked above ground and reused (Vázquez Leiva 1989). The only cemetery excavated completely is that of El Cristo, Cartago, dating to ca. A.D. 1100–1300. A total of 116 stone cist tombs were excavated, all rectangular in form, with lids and floors, and made with lajas and river cobbles (Blanco Vargas, Guerrero Miranda, and Salgado Gonzalez 1986). Among the contents were elaborate rattles, a ceramic axe in the form of a hafted stone axe, and a copper bell with a quartz crystal clapper. The number of tomb offerings that included metal was minimal. The El Cristo cemetery was the first complete, small cemetery excavated scientifically. It also offered insight into the use of gold objects among the population. Only two tombs contained gold objects, a lesser percentage than that cited by Bray (in this volume) for several sites in the Tairona region of Colombia. A circle of stone surrounded the cemetery in its entirety, supporting intepretations of the circle as an important symbol in this time period.

Stone cist tomb forms predominate in the Central Region of Costa Rica after about A.D. 800 and continue until the Spanish conquest. Bozzoli de Wille (1979) has described ethnohistorical accounts that refer to the prohibition of the dead body touching earth, a possible explanation for the cist or chamber in which bodies were buried. Those prehistoric tombs that lack a cap or a floor most probably had covers made of wood. The use of wood was customary in historic times (Lothrop 1926; Stone 1962). Wooden slabs carved with zoomorphic effigies such as those described by Columbus (Lothrop 1926) usually are not preserved. There are, however, several beautifully carved, human-sized volcanic stone slabs for laying out the dead; these were then erected vertically (they all have tab bases) like modern tombstones. One of these was found in place a century ago at the Guayabo site and is in the MNCR. Cemeteries were placed outside the residential sites and beneath the houses themselves. In the Central Valley, calcareous lajas are frequent, alongside volcanic ones (Snarskis 1992: 158, figs. 9 and 10), but in the central Atlantic lowlands river cobbles, selected for size, predominate (Fig. 13).

Ceramics. Pottery from the last seven centuries before the Spanish arrival declines in quality, and there seems to be less of it. Sites seldom show dense or widespread sherd scatters. It may be that the importance of the craft declined in relation to other activities. Most pottery is a continuation of La Selva Sandy Appliqué, but with a more friable, thick-tempered paste and crocodilian faces and triangular hatched motifs with maroon and white

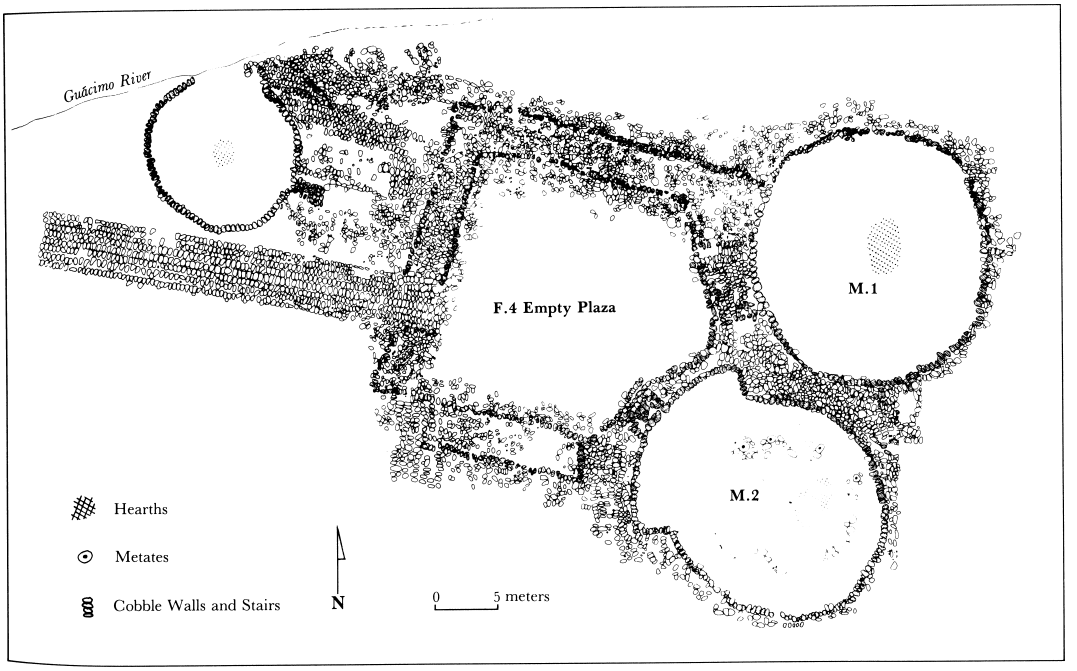

Fig. 13 Partial plan of the La Cabaña site (ca. A.D. 1000–1550) showing use of round structures in a quadrangular plan (after Snarskis 1992: 154, fig. 7).

painted details—La Cabaña Fine Slipped and La Cabaña Coarse. Better-preserved versions of the former are often covered with a variety of plastic decoration in an "overloaded" style; careless incision, tool stamping, and appliqué pellets and fillets impressed to look like chains may be combined with one or two crudely modeled animal heads, all on the same vessel. When present, tripod supports are almost always some kind of stylized, hollow zoomorphic head. Lothrop called this pottery Stone Cist Ware, after the tomb types in which it was found (Lothrop 1926: 346–352, pl. CLXXX; Snarskis 1982: 113). The late ceramic complex is known as the La Cabaña Group (La Cabaña phase) in the Central Atlantic Watershed (Snarskis 1978: 266–267), and the Pavones Group (Cartago phase) in the Central Valley (Aguilar Piedra 1973; 1976). Stone (1977: 167, fig. 227) reports several crude Stone Cist Ware vessels found with a Venetian glass bead in the western Turrialba Valley, but no tomb form or other contextual data are given. While rim sherds of the larger culinary ollas of this late period are found frequently, not a single whole vessel is known, suggesting that they were not placed in burials, as occurred with large ollas in earlier times.

After around A.D. 800, trade pottery—especially the brilliant polychrome-painted vessels of Greater Nicoya, primarily Mora, Papagayo, and Birmania/Highland Polychrome—begins to appear in considerable quantities as mortuary offerings and within general site debris. Seemingly, their occurrence is low (1 to 4 percent), but as these overall totals often surpass 20,000 sherds, the numbers of foreign polychromes may run into the hundreds. There is clear evidence that they were highly esteemed and valued: five of the seven pottery vessels in the principal tomb under the main house at Barrial de Heredia were imported

polychromes. Crack-lacing repairs are noted on whole vessels as well as on sherds in a percentage much higher than that for local ceramics. All this data bespeak well-developed trade networks of medium to long distances. Imported ceramics in earlier times were very rare, although some jades may have been imported from northwest Costa Rica to the Central Region. It is unknown what was being traded in return. It may well have been organic things—feathers from rain forest birds, psychotropic drugs, foodstuffs (such as *pejibaye*), animal pelts, or slaves or prisoners. It was definitely not Central Region pottery.

Diquís polychromes were not traded north to the Central Region, but there was a mutual familiarity with styles, vessel forms, and symbolism. What may have been traded north were the accoutrements of metallurgy: placer gold, stingless bee's wax, and some gold pendants. The elegant, thin-walled Tarragó Bisquit pottery, sometimes found with Spanish iron tools in Diquís, only rarely made its way to the Central Region (Snarskis 1992: 158–160, figs. 10, 11).

As in the previous transitional period, a wide variety of quite different ceramic types are evident. It remains unknown whether there were discrete centers of manufacture for each, which were then traded to other sites, or if most of the types were made by all major sites. The former is more likely, as it stimulated activity along the multiple trade networks (Snarskis 1978: 407).

Stone. The inhabitants of the late nucleated sites did not do careful sculpting of quotidian food-processing tools of ground stone. Rather, ordinary metates were large, flat cobbles (up to 60 to 70 centimeters) taken from riverbeds and worn into a depressed grinding area through use. Similarly, manos and pounders were small cobbles chosen for their approximate hand-sized shape and proportions, and grinding or battering wear was produced only through use. This contrasts sharply with the customs of the jadeworking El Bosque phase sites.

Ceremonial metates, on the other hand, continued to be manufactured with the same remarkable skill seen a thousand years earlier. Forms changed drastically, however, and wear from use on these sculptures is extremely slight or absent. Indeed, some large annular-base circular versions have been called altars. The carved elements are always zoomorphic; they have no human heads around the edge. Much smaller oval or rectangular versions, always carved of finer-grain stone, seem more like trays or receptacles than grinding implements.

The most striking shift in stone sculptural styles concerns the representation of the human figure. As noted previously, the jadeworking El Bosque and Pavas phase cultures portrayed the human figure exclusively with a zoomorphic mask or headdress, and as part of a larger, more complex volcanic stone composition, never as a realistic, freestanding unmasked human. They did find it acceptable to portray realistic humans in a variety of poses in the small ceramic figurines and ocarinas of the Santa Clara Figurine group. A thousand years later, this convention underwent a drastic change: realistic, freestanding, unmasked human figures in volcanic stone became the norm, in keeping with a relative cultural secularization mirroring the more defensive, quasi-militaristic posture of the late "city-states," such as Guayabo, in combination with their allies. Even more interesting is that these sculptures present sociopolitical and cultural stereotypes: the classic warrior, with axe in one hand and severed

human trophy head (usually shrunken) in the other; the prisoner or captive, probably destined for sacrifice or sale, always shown nude, with hands bound; the shaman or *curandero*—often referred to as a *sukia* in Costa Rica—hunkered down in a seated position and either smoking or blowing or sucking through a tube to cure sickness. There is also what may be another version of the shaman as a hunkered down figure, always male, like all those above, with subtle, abstracted facial expressions indicative of a drug trance; finally, there is the version of a female, supporting her breasts with her hands, in what may be a pose of sexual receptivity or fertility. Also in the range of freestanding realistic stone sculpture are trophy heads, often with an expression of rictus. These may have eyes and mouth sewn shut or teeth exposed in a skeletal fashion. Distinct from these are the portrait heads, which appear to portray living personages with serene or noble visages.

The largest, most politically important sites—including Parasal, Guayabo, Las Mercedes, and likely many others—contain life-size, or larger than life-size, sculptures of humans, perhaps of real personages. Such glorification of the individual suggests possible personality cults around great leaders in late period cultures. Stone (1977: 180–81), citing Hartman (1901: 7–13), describes life-sized male figures, some holding trophy heads, measuring from 1.8 to 1.85 meters, which is more than six feet tall, that had fallen off the main mound at Las Mercedes. The skeletons of individuals with statures of around 1.8 meters have been excavated in one or two stone cist tombs near Cartago, but the sculptures could just as well represent an exaggerated size. At Las Mercedes, the foot of one of these life-size male stone statues was found broken off in its mount adjacent to the doorway to the main mound (Hartman 1901: 9).

The Predominance of Gold in Costa Rica: How, Why, and When

The initial entry of Colombian trade pieces and, later, metallurgical technology, accompanied by a suite of cultural elements rich in change for central Costa Rica, eventually predominated in all of the country in one way or another. Frederick W. Lange (1992: 430–431) disagrees with G. R. Willey's assertion that "metallurgy can be used as a horizon marker" (1971: 277), going on to say that it spread from Pacific South America, through Pacific Central America, to Pacific Mexico, gradually, from 200 B.C. to A.D. 700. Lange notes that one finds more gold where it is expected to be found in Costa Rica (Diquís subregion), and more jade where it is expected to be found (Guanacaste subregion). As was the nature of indigenous Costa Rica, however, northwest Costa Rica combined elements of two traditions: the inhabitants made gold pendants and had circular houses, but they expressed a Mesoamerican iconography on virtually all of their polychrome ceramics, probably due to their long-standing trade route relations to the north.

How. It is generally accepted that the first metal objects to reach central Costa Rica were trade goods from Colombia that, given their distribution based on archaeological finds, seem to have come by sea, across the lower Caribbean, to the Central Atlantic Watershed and, on the Pacific side, from the Azuero Peninsula to Diquís and farther north. It is feasible that

some gold or associated materials came overland, but these were probably from Panama, rather than Colombia.

Why. Why gold came to dominate in Costa Rica cannot yet be answered with certainty, but there are some clues. There was an apparent decline of some major Maya centers in the Early Classic, perhaps disrupting trade routes with some parts of Costa Rica (Hoopes 1985; 1992). There is also the possibility of the exhaustion of jadeite sources in Costa Rica or barriers to them caused by geological phenomena. The fall of Teotihuacan may have been a factor in cutting off trade routes. The dynamic in Mesoamerica must be added to the burgeoning size of chiefdoms in northern Colombia, which can be extrapolated to prehistoric times from mostly ethnohistoric data. Among others, Bray (in this volume) speaks of a three-tiered hierarchy of sites in which some of the largest, such as Pueblito, have up to a thousand circular house foundations. No site in Costa Rica remotely approaches this size, and indeed Bray speaks of "incipient states." Cut off from their power-bestowing trade routes to the north, much of Costa Rica, certainly the Central Region, turned to the south and the new prestige, elite-associated material, gold. When metallurgical technology reached the Central Region, it was rapidly adopted, and the central Atlantic lowlands became a major producer of Cooke and Bray's International Style (Cooke and Bray 1985), mostly small gold or tumbaga pendants of human shamans or rattle-bearing dancers, plus the tiny eagles and frog pendants with exaggeratedly spatulate legs (Fig. 14). Artifactual changes reflected changes in belief systems and possibly who was in power, that is, who dominated the trade networks to the south. The Diquís subregion was so southern oriented that lime flasks for coca chewing and a clear camelid ceramic effigy are known (Snarskis 1981b: 220, cat. no. 240).

When. The first metal objects to reach Costa Rica were trade goods from Colombia, ca. A.D. 500–600. Metallurgical technology followed shortly thereafter. The domination of gold-focused mythology and many of the associated cultural features described above took hold after around A.D. 800 and continued until the arrival of the Spanish. The precise dynamics that gave rise to this change in sacred materials and belief systems will probably never be fully understood, but capable archaeology and excellent ethnohistorical analyses like those of Bozzoli de Wille (1979) and Ibarra Rojas (1999, in this volume) will be invaluable.

Conclusions and Hypotheses

The differences between the jadeworking period and the era of gold and its alloys in central Costa Rica are striking and distinctive enough to warrant comparative discussion of the larger cultural contexts of these times. In many ways, they are a study in contrasts. Between 300 B.C. and A.D. 500, sites were large and diffuse, with no evidence of sharply demarcated boundaries or defenses. Accessibility to good agricultural land seems to have been the primary consideration in site location. Craft production involved artisans engaged in detailed work on materials that required great amounts of labor to produce a finished product. Intergroup conflicts were apparently infrequent. Instead of warfare, communal energies were

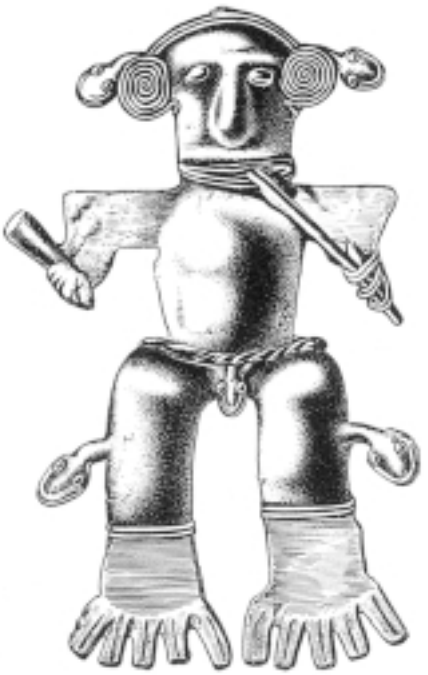

Fig. 14 Cast pendant of a splay-foot male figure (after Lothrop 1950: fig. 107)

invested in ceremonies (and sacrifices) dedicated to agricultural fertility. This was an expression of a worldview that required the propitiation of agricultural deities with regularly scheduled ritual. Human sacrifice was the ultimate gift to the gods to ensure a proper relationship between mortals and supernaturals and the continued abundance of crops and the humans who depended on them.

During the age of gold, A.D. 800–1550, all of this changed. Agglomerated ceremonial centers developed. Some of them may have approached the level of nucleated city states, while others may have been under quasi-military control. Strict boundaries defined these locales, which had defenses and control systems for entry and exit. Sites were chosen for strategic reasons and as commercial nodes. Most ceramics and stone tools were of poor quality, although ritual stone sculpture was finely done. Preoccupation with defense and dominion of territory also meant that political relations were equally or more important than previous concerns of harmonious relations with gods and seasonal cycles. Endemic small-scale warfare became common, and sacrifices to propitiate deities coexisted with larger-scale battles, the new dynamics of intercommunal conflicts.

Thus, in this hypothesis jade represented an expression of an ethos and, likely, a reality of widespread, small-scale communities attempting to live in harmony with their environment and their fellow humans. In contrast, the flashy brilliance of gold became an expression of the aggressive, expansionist goals of elites in hierarchical systems likely under demographic and environmental stresses. Future research will likely refine this rather stark, contrastive picture of the ages of jade and gold in Costa Rica. At present, however, this model of

a long-lasting, stable agricultural society succeeded by a darker, more secular age may seem to fall too easily into a romanticized view of the past. Societies do, however, spin out of balance and control, and all the available evidence suggests that the pattern described above is the best interpretive model, for the moment. This model also offers a clear challenge to scholars for its elaboration or refutation in future research, no matter what view of the past is held.

Addendum:

A recent article reported the discovery of "Olmec blue" jade at the famous Las Minas jadeite source in the Motagua river valley of Guatemala (Seitz et al. 2001). It remains to be seen if this was also the source for Costa Rican blue-green jade.

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Metallurgy, Balls, and Stone Statuary in the Diquís Delta, Costa Rica: Local Production of Power Symbols

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The Diquís, or Sierpe-Térraba, Delta is known in American archaeology for the discovery of a great quantity of elaborate metal objects and monumental stone balls, the latter measuring in some cases more than two meters in diameter. A great deal of important archaeological data has been lost in this area since the end of the 1930s due to extensive looting and wide-ranging cultivation in the alluvial plain, where the principal archaeological deposits are found. In this article we will explore the association of these metal objects (gold and gold-copper alloys), the monumental sculpture (stone balls and peg-base statues), and the remains of large settlements containing earthen mounds, foundations, plazas, and cemeteries dated between A.D. 800 and 1550. This evaluation is based on data from various studies conducted in the region over the course of nearly sixty years, but is limited by a lack of context for many of the objects, a scarcity of horizontal excavations, and the relatively small amount of information available, particularly regarding the size of the archaeological sites and their internal conformations.

The Diquís Delta of Costa Rica's southern Pacific region sits within the Greater Chiriquí Archaeological Region (Fig. 1). The delta appears to have been a site for the local production of power symbols. These were intended for public use—internal and external collective images—and personal use—to indicate status. Additionally, these symbols may have been ethnic identifiers for the people of the region.

Three types of artifacts have been found in the delta that are unique to the Greater Chiriquí region and appear to have been part of the specialized industry for the production of power symbols: The first of these are stone balls. These are some of the most intriguing items in American archaeology because of their almost perfect shapes, smooth finishes, large sizes (of some examples), and their discovery in groups. The second type of artifacts are the flattened, peg-base statues depicting standing men and women, in many cases wearing zoo-

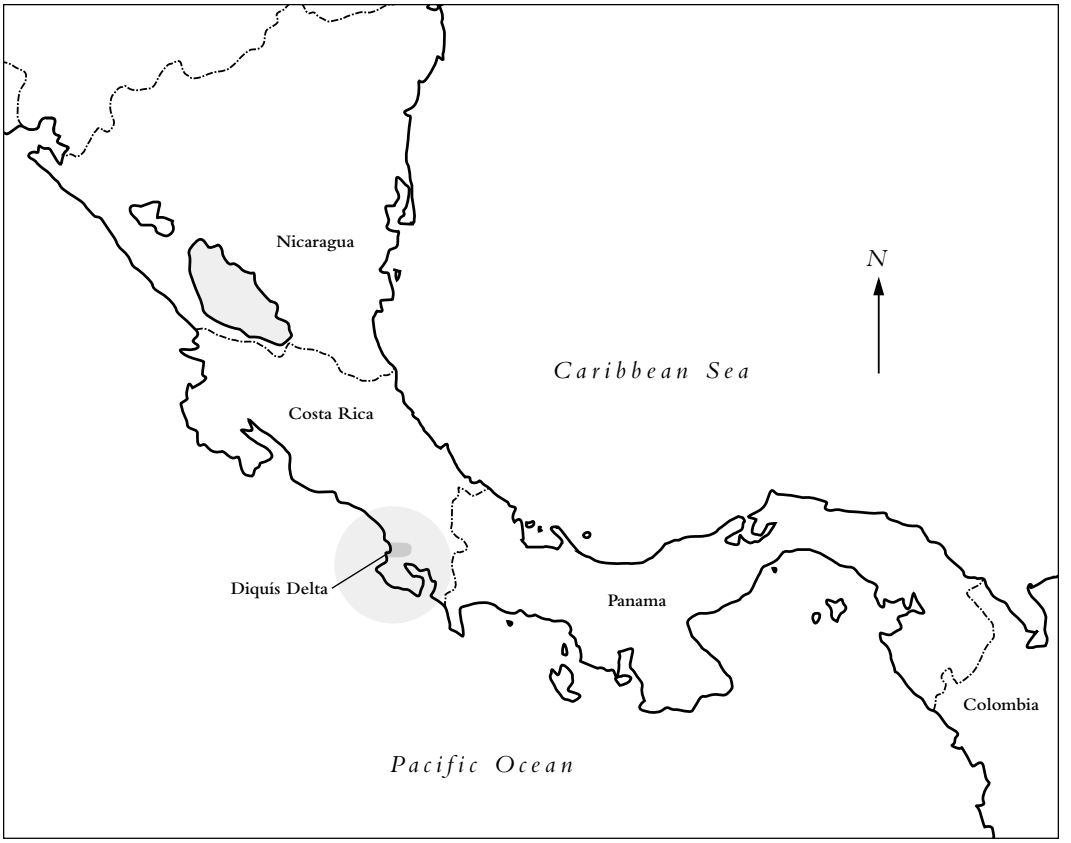

Fig. 1 The Diquís Delta, southern Central America

morphic masks or headdresses. Stylistically, these represent unique elements of limited dispersion, leading various authors to propose that they are an art form indigenous to the delta (Stone 1943; Mason 1945; Lothrop 1963). The third group of artifacts to be studied is that of the delta's metallurgy, represented by assorted gold and *tumbaga* (gold-copper alloy) objects. Some scholars suggest that the Diquís Delta developed its own metal object production because its styles and technology differed from those of production centers in Panama, Colombia, and other parts of Costa Rica.

The monumental stone balls and peg-base statues may form part of a group of collective public symbols. The metal objects, especially those that display a high degree of technical skill and detail as well as great symbolic content, were for individual consumption. Objects made of perishable materials, such as staves, bone pendants, shells, and fabrics may have also been for personal possession. The use of these objects, together with the construction of mounds and public plazas point to a complex society with established social structures, in

which ideological and symbolic elements were fundamental to the society's organization, consolidation, and effective functioning.

The Diquís, or Sierpe-Térraba, Delta is one of the most important estuary systems in southern Central America (Figs. 1 and 2). It starts at the junction of the Grande de Térraba and Sierpe Rivers, which flow into the Pacific Ocean. The Grande de Térraba River is fed by rivers and streams descending from the Talamanca range and forms the most extensive watershed in Costa Rica (Fig. 3). The Sierpe River has its source in a lagoon within the delta and is fed by the Chocuaco River and streams descending from the Osa Hills.

The towns of Palmar, Ciudad Cortés, Sierpe, Coronado, and San Buena are located in the extensive alluvial plain of the Sierpe-Térraba Delta (Fig. 4). This plain is bordered from the northeast to the southeast by the Costeña Range, to the south and southwest by the Osa Hills, and to the west by the Pacific Ocean. The plain is strategically situated and can be easily reached because of its proximity to the Golfo Dulce (accessible by land or by sea), to the Chiriquí in Panama, and to the Gulf of Nicoya in Costa Rica's northern Pacific region. Facing the delta is Caño Island, an important point for Pre-Columbian trade and commerce (Finch and Honetschlager 1985). Beginning at the Osa Hills on the delta's southern border is the Osa Peninsula, which is approximately 1,100 square kilometers and contains one of the principal placer gold deposits in Costa Rica (Berange 1987; Organización de Estados Americanos 1978). In archaeological terms, the Diquís Delta forms part of the Diquís subregion in the Costa Rican part of the Greater Chiriquí archaeological region. Various authors have proposed that the delta represents one of the centers of local development in Greater Chiriquí (Haberland 1984; Baudez et al. 1993; Hoopes 1996).

The Archaeological Context of Metallurgy and Statuary in the Sierpe-Térraba Delta

Among the archaeological studies conducted in the Diquís Delta are works by Stone (1943), Lothrop (1963), and Baudez et al. (1993). These studies concentrated on deposits located in the Palmar Sur–Sierpe region, part of the delta's alluvial plain. For thirty years this region was used for banana cultivation and then for the cultivation of cacao and African palms. By the time archaeologists began working in the Palmar Sur-Sierpe region, its forests had been lost and other modifications of the land were well advanced. These factors, combined with the plain's thick sedimentation, prevented early researchers from producing detailed documentation of the archaeological sites in the area. Between 1991 and 1992, Ifigenia Quintanilla carried out a survey of parts of the Sierpe-Térraba Delta. The study was exploratory in nature and included Ciudad Cortés, Ojo de Agua, and San Buena on the alluvial plain, the Osa Hills, Violín Island, and Coronado, Chontales, and Balsar, the small valleys formed by the tributaries of the Grande de Térraba in the Coastal Range (Quintanilla n.d.). The survey documented fifty-two archaeological sites, each with distinct characteristics and phases of occupation. The archaeological record of the Sierpe-Térraba Delta thus far suggests that the area was occupied from the first millennium B.C. until the arrival of the Spanish conquistadors (Stone 1943; Lothrop 1963; Corrales, Quintanilla, and Barrantes 1988; Baudez et al. 1993; Quintanilla n.d.; Badilla, Quintanilla, and Fernández 1998).

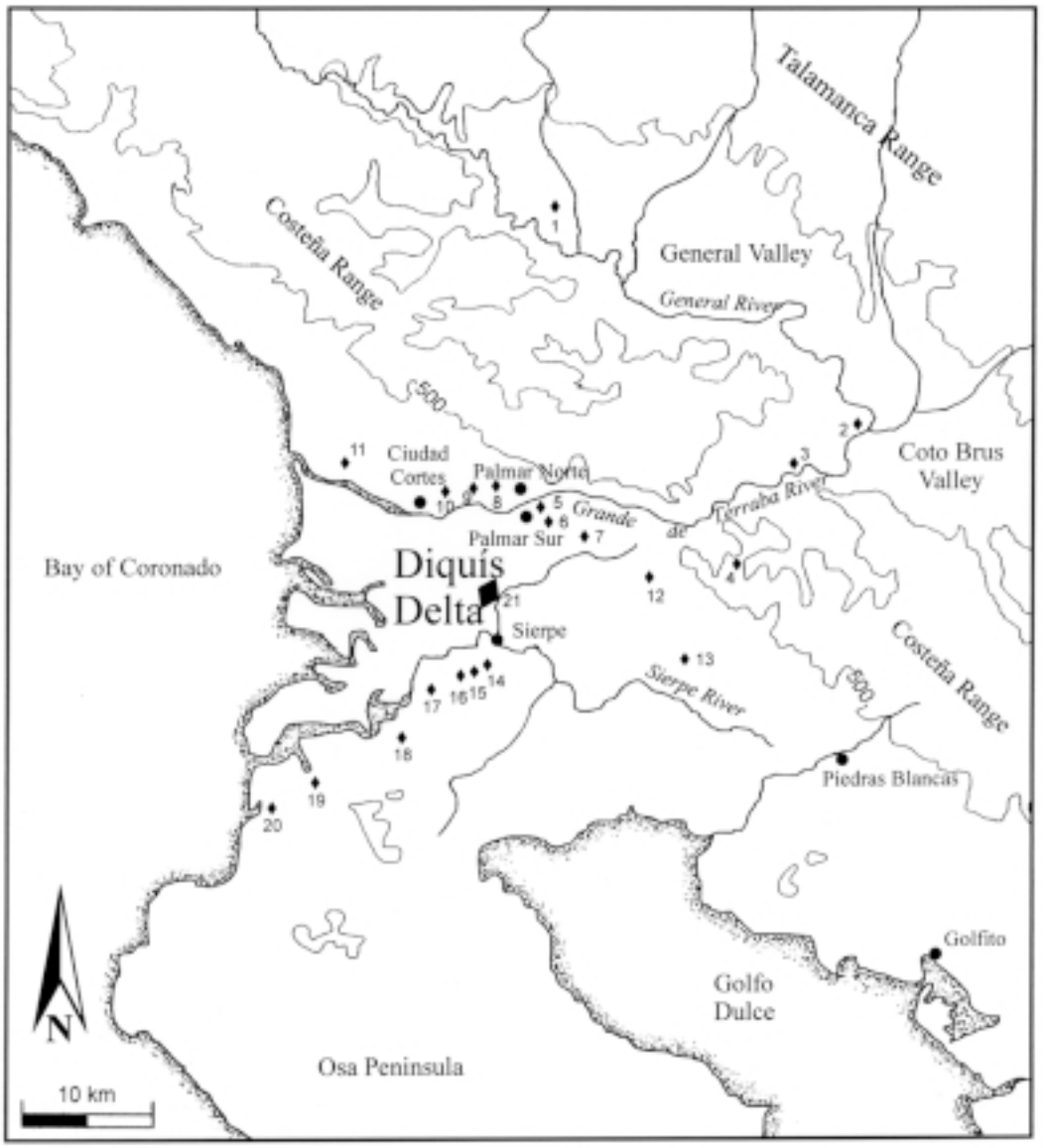

Fig. 2 The Diquís Delta of the southern Pacific region of Costa Rica and some of the archaeological sites of the Diquís archaeological subregion: 1. Rivas-Panteón de la Reina; 2. Murciélago; 3. Curré; 4. Coquito; 5. El Silencio; 6. Cansot; 7. La Olla; 8. Batambal; 9. Camaronal; 10. Grijalba; 11. Estero Rey; 12. Alto La Soledad; 13. Jalaca; 14. Sierpe; 15. Varillero; 16. Miramar; 17. Guacimo; 18. Beto Rojas; 19. Muñequera; 20. Drake; 21. Palmar Sur-Sierpe (Farms 2, 3, 4, 6, 7).

Fig. 3 The Térraba River receives water descending from the Talamanca range and from a part of the Costeña Range. This is the principal watershed in Costa Rica.

Fig. 4 On entering Palmar Norte, the Térraba River spreads into the shape of a fan, and, where it joins with the Sierpe River, forms the Sierpe-Térraba alluvial plain.

Baudez et al. (1993) conducted important survey work in the Palmar Sur banana plantations, dedicating their efforts to establishing a local ceramic sequence. They documented human occupation from A.D. 700 (Camíbar Phase) to A.D. 1200 (Palmar Phase). In later surveys of adjacent sectors, Quintanilla (n.d.) discovered ceramic material and lithics associated with the Curré Phase (1000 B.C.–300 B.C.), the Aguas Buenas Phase (300 B.C.–A.D. 800), and the Chiriquí Phase (A.D. 800–1500). In addition to Quintanilla's research, archaeological studies carried out on Caño Island by William Finch and K. Honetschlager (1985) and by Francisco Corrales and Magdalena León (1987) recovered ceramic material possibly from the Curré Complex and the Aguas Buenas and Chiriquí Phases. The delta and its environs thus formed a large occupation center, not an isolated backwater as the Palmar Sur–Sierpe occupations seem to indicate. The presence of ceramic material with decorative and formal elements associated with what Corrales (1985, n.d.) defines as the Curré Complex for the middle basin of the Térraba River indicates the presence of settlements dating to approximately 1500 B.C.–500 B.C.

Although ceramic material and lithics were found from the Aguas Buenas Phase no housing or funerary constructions have been successfully documented; at the same time, however, the studies conducted have not been exhaustive in places that are difficult to access. Nevertheless, abundant ceramic material and fragmentary lithics have been found that could correspond to domestic debris (Quintanilla n.d.). Baudez et al. (1993) discovered ceramic material and lithics from this same phase (which they call the Camíbar Phase) in Palmar Sur–Sierpe, assigning their creation to the later part of the phase. They found no associated architectonic remains. The number of archaeological sites in the mountain ranges, foothills, and the alluvial plain increases for the Chiriquí Phase. The settlements are larger and greater architectural development appears, evidenced by the identification of foundations, mounds, and cobblestone areas (Quintanilla n.d.).

It is possible that the principal Pre-Columbian settlement of the Diquís Delta was at the site of the present-day town of Palmar Sur and the United Fruit Company banana plantations at least between A.D. 600 and 1200. This settlement, or collection of settlements, is characterized by the presence of large stone-walled mounds, house foundations, paved streets, cemeteries with rich offerings, and dense ceramic and lithic deposits distributed over approximately 900 hectares. In addition, there are open fields, or plazas, containing large sculptures in the form of almost perfect balls in groups and human and zoomorphic statues.

The wide distribution of deposits recorded by various researchers points to a continuity of occupation in the Palmar Sur–Sierpe megasite beginning around 600 A.D. with a period of dense occupation between A.D. 1000 and 1200 (Stone 1943; Lothrop 1963; Baudez et al. 1993; Quintanilla n.d.; Badilla, Quintanilla, and Fernández 1998). Baudez et al. (1993) published a map showing the distribution of archaeological remains from their detailed survey and from information provided by Stone (1943) and Lothrop (1963) (Fig. 5).

Palmar Sur–Sierpe's principal architectonic concentrations are located in Farms 4 and 6 (to use the nomenclature of the United Fruit Company). It is there that the most important groups of stone balls have been discovered, along with mounds up to thirty meters in diameter and three meters in height, paved roads, and human and zoomorphic statuary. The

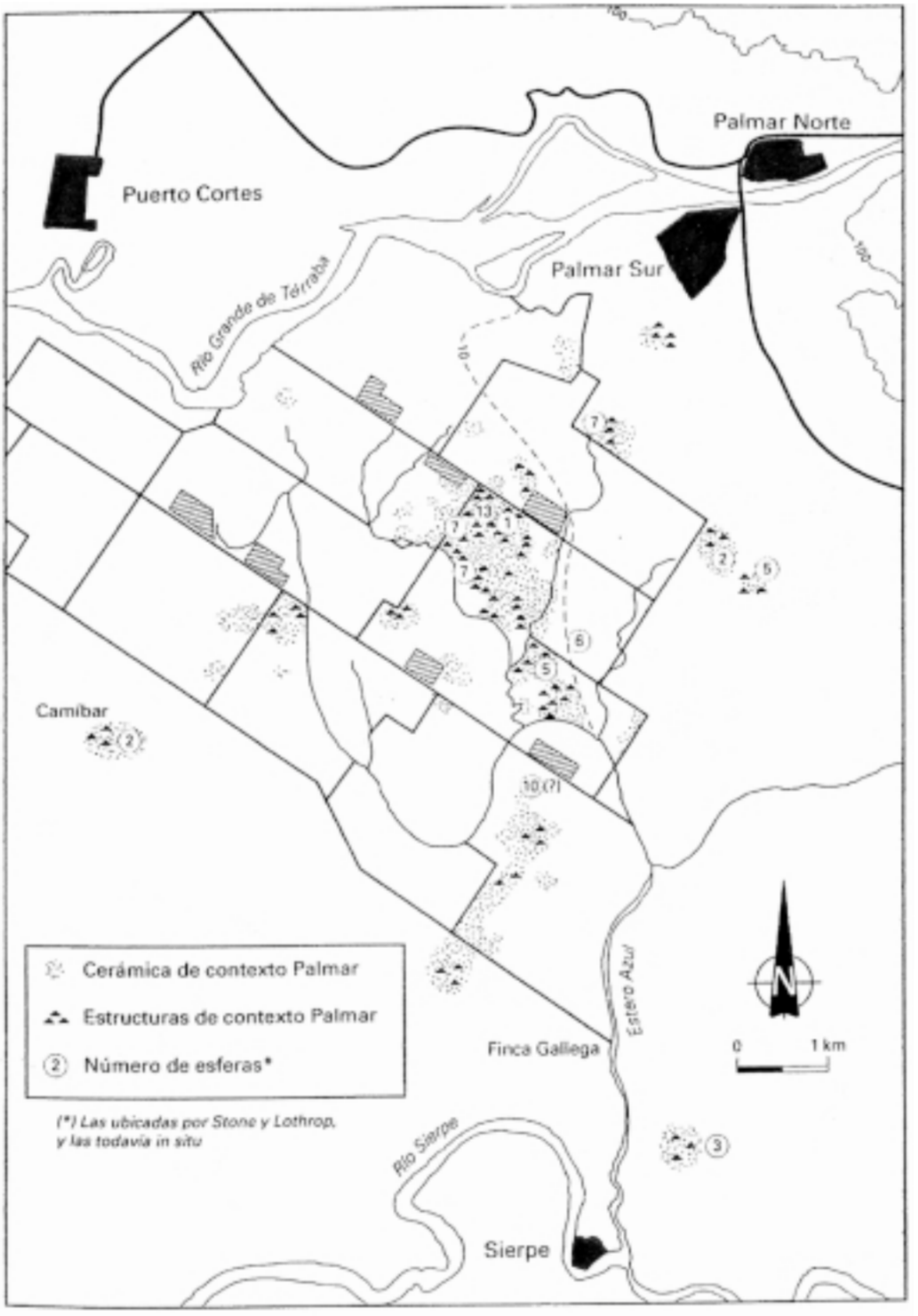

Fig. 5 Distribution of archaeological materials in Palmar Sur–Sierpe (after Baudez et al. 1993: 41)

center of this large site appears to have been at Sections 23 and 36 of Farm 4, which was excavated by Lothrop (1963) and is the site of ongoing rescue archaeology efforts by Adrián Badilla (Badilla, Quintanilla, and Fernández 1998) (Fig. 6). More than twenty stone balls were discovered in Sections 23 and 36, in open fields, vestibules, and the upper parts of mounds. Some of the balls located within the mounds were lying on paved surfaces similar to those outside the mounds (Fig. 7). In Farm 6, a group of five balls sit in what appears to have been an open, unpaved field, surrounded by mounds and foundations and possibly paved streets and cemeteries. Excavations suggest the area was a plaza in which the groups of balls were arranged in lines oriented toward the cardinal points, particularly east-west.

Sections 23 and 36 may also be the location of two interments that contained one of the principal finds of metal objects in Costa Rica. Lothrop (1963) provides an account of a witness to the plundering of two tombs. One of the interments contained a large metate, a stone ball approximately twenty-five centimeters in diameter, and monochrome and polychrome ceramics. Lothrop offers no information about the quantity of gold objects in this tomb, some of which were acquired by Robert Bliss and currently form part of the Dumbarton Oaks collection. The other interment also contained a metate and a stone ball, this one sixty centimeters in diameter, along with monochrome ceramics and eighty-eight gold objects. Eighty-seven of the objects from this group were acquired in 1956 by the Banco Central de Costa Rica and are currently held in the bank's Museo del Oro Precolombino. During the rescue archaeology efforts at Farm 4, which is close to the two aforementioned interments, workers found a small gold sheet three millimeters in diameter on the surface of recently plowed land. This fragment could have resulted from a die strike (Badilla, Quintanilla, and Fernández 1998), perhaps an indication of goldworking near the area.

Peg-base statues have also been discovered in the same sectors of Palmar Sur–Sierpe as architectonic remains, stone balls, and interments with rich gold offerings. Some of these statues were found next to or on top of mounds (Lothrop 1963; Stone 1943). They have also been found in deposits, where they were often piled up, broken, and show evidence of having been burned (Stone 1943; 1977; Lothrop 1963; Quintanilla n.d.; Hidalgo 1994). These deposits are located in the alluvial plain as well as in the Osa Hills and the Costeña Range, at Farm 2, Section 40; Farm 5, Section 32; Farm 4, Sections 23 and 36; Farm 6, Camaronal; and Caño Island, among other sites.

At Muñequera, in the Osa Hills near the mouth of the Sierpe River, archaeologists found a deposit comprising a group of broken statues along with four-footed metates with feline heads and tails (Quintanilla n.d.). Although the deposit was not associated with any type of structure, its discovery is noteworthy because the cache appears to be similar to others found by hunters and tomb robbers in different parts of the Osa Hills and to those reported by Stone (1943) and Lothrop (1963). Additionally, the collection records of the Museo Nacional de Costa Rica list a group of zoomorphic statues and sculptures from Sections 23 and 36 of Farm 4, the same area where the aforementioned large gold deposit was found in conjunction with architectonic remains. These objects were seized by Costa Rican authorities from illegal traders in the 1950s.

Fig. 6 Partial view of a rectangular architectonic structure at Farm 4. Notice the pavement and the wall constructed of round stones from the Térraba River.

Fig. 7 Rescue archaeology excavations conducted by the Museo Nacional de Costa Rica at Farm 4 in 1996. Note the paved entrance to a mound and the positioning of a stone ball to one side of the entrance. Photograph by R. Rubí, Fundación Museos, Banco Central de Costa Rica.

Stone (1963) has published data for metal objects and other specialized crafts from the Jalaca site, located in the delta on the southern border of the Sierpe-Térraba alluvial plain. One group of artifacts in a funerary context is noteworthy for its examples of bone and shell work and its association with metal (tumbaga) objects. Jalaca is exceptional among archaeological sites in Costa Rica's southern Pacific region, where preservation of organic remains is rare. Bones from species outside the region that were carved with great mastery and found with objects of metal, bone, shell, and ceramics have shed light on what are thought to be household goods from the Chiriquí Phase. There is insufficient information about the rest of the cemetery. Where persons buried at Jalaca lived remains unknown. Nevertheless, the delicacy of the bone work contrasts with the tumbaga objects, which appear to have been for "general use," unlike the discovery at Farm 4.

Available information indicates the presence of other archaeological sites in the delta where ball arrangements are associated with architectonic groupings. Plunderers have found metal objects in some of these areas. The balls appeared not only in large settlements, but also in small villages in the environs of the delta. The same distribution pattern applies to metal objects. The oral history of the southern Pacific region tells of modern vendors selling gold pieces, an indication of other archaeological sites with significant quantities of gold. Various legends exist among tomb robbers specializing in gold objects in the southern Pacific region. These legends were widely told in the 1950s and 1960s but are almost unknown by archaeologists today. In the oral tradition, Coquito, Panteón de la Reina, Puerto González Víquez, La Vaca, and La Vaquita are named as sites where large quantities and outstanding examples of gold objects were discovered. These locations correspond with recorded proveniences for the majority of pieces in museums worldwide. Only a partial picture can be reconstructed of the destruction of the Sierpe-Térraba Delta's archaeological remains and the social relationships that may have existed between the people of the delta and neighboring regions.

The Stone Sculpture of Sierpe-Térraba

J. Alden Mason (1945), Stone (1943; 1977), and Lothrop (1963) have pointed out the unique characteristics of the Diquís Delta that support the theory that it is an area distinct from neighboring regions in terms of stone sculpture. This theory is useful at present for understanding the interaction between the industries specializing in stone and metal and the production of power symbols in this part of southern Central America. Here, the focus is on understanding these relationships within their social contexts.

There are various types of stone sculpture from the Sierpe-Térraba Delta, of which stone balls and anthropomorphic peg-base statues are the most characteristic. The obviously zoomorphic sculptures and statues of indefinite form, called "ghosts" by Lothrop (1963), are rare and little studied and therefore are not included in this article. However, they do appear to have been contemporaneous to the others, starting in approximately A.D. 800, since they have been discovered in both habitational and habitational-ceremonial sites of the Chiriquí Phase.

Fig. 8 The stone balls are almost perfectly round and have a smooth finish. This ball was found in 1993 at Farm 6, Palmar Sur–Sierpe. Photograph by R. Rubí, Fundación Museos, Banco Central de Costa Rica.

Stone Balls

The stone balls of Costa Rica are the most distinct form of monumental sculpture in southern Central America (Fig. 8). They differ from other round stones reported in America in three principal ways: their almost perfectly round shape, the smooth finish of the majority of them (especially the larger ones), and their discovery in groups, some forming lines or geometric figures, such as triangles or rectangles (Fig. 9). To date, stone balls have been reported in thirty-four archaeological sites in Costa Rica and one in Panama, at Paso Canoas, near the border (Fig. 10 and Table 1). The greatest concentration of balls is in the southern Pacific region of Costa Rica, with the main concentration in the Diquís Delta (Fig. 11). Here the balls are not only the most plentiful but also the largest.

On the basis of published archaeological data, the total number of balls known for the region appears to be 176. Of this number, ninety-eight are found in Palmar Sur–Sierpe on former banana plantations. Some of these balls surpass two meters in diameter and weigh several tons. Many balls have been removed to other parts of the country or shipped abroad. The total number in the region in Pre-Columbian times was most probably far greater.

It appears that stone ball manufacturing did not arise exclusively in the Sierpe-Térraba Delta, but also developed in neighboring zones of the Diquís archaeological subregion. Stone balls have been discovered at Bolas (Drolet 1983; 1992), Agua Buena (Minelli and Minelli 1966), and Costa Purraja and Obando (Hoopes n.d., 1993). These sites appear to be associated with ceramic material dating to the late Aguas Buenas Phase (A.D. 400–800). In addition, small groups of balls are reported associated with habitational elements at these sites or, as Robert Drolet wrote about Bolas site, there seems to be an association between one particular residence and the interments of people of rank within the mounds (1983: 36).

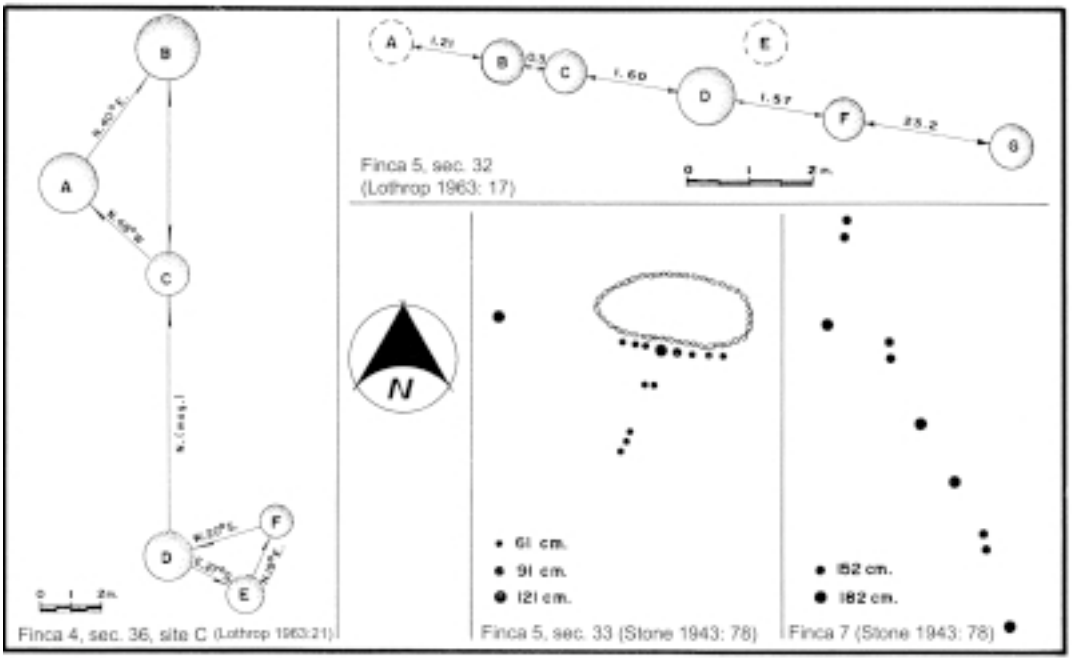

Fig. 9 Groups of stone balls at Palmar Sur–Sierpe (after Stone 1943 and Lothrop 1963)

It is important to note the discovery of stone "barrels" and stone balls at three sites: Agua Buena in San Vito, Costa Purruja, and Obando in the coastal area of Golfito and the Coto River. The barrels are cylindrical sculptures generally no more than fifty centimeters in height and forty centimeters in diameter; some of them bear petroglyphs. The Barriles site, near the border of Costa Rica and Panama, is named for these objects and is one of the most frequently mentioned sites in Greater Chiriquí archaeology. It is little studied, however, and has been altered by a great deal by plundering. Barriles is also known for its large "Man-on-Slave" statues, which various archaeologists have interpreted as an indicator of the rise of ranked societies in the Greater Chiriquí region (Corrales, Quintanilla, and Barrantes 1988; Olsen Bruhns 1992; Hoopes 1996). It is also known for its large, four-footed metates with multiple trophy heads around the rims (see Hoopes and Fonseca, this volume, Fig. 2).

To date, no stone barrels have been found in the Sierpe-Térraba zone. At Varillero, in the Osa Hills, however, fragments have been found of a metate with decorations on its supports and rim similar to those from Barriles (Quintanilla n.d.). This site has also produced ceramic material corresponding to the Curré Complex and Aguas Buenas Phase, and is one of the few locales in the southern Pacific region showing early occupation. It is possible that this site and other Aguas Buenas sites in the Osa Hills contain essential information helpful to understanding the development of specialized industries and the transition from egalitarian to class-based societies in the Greater Chiriquí region.

The stone balls of the Sierpe-Térraba Delta were made primarily from three types of rock: gabbro, granodiorite, and limestone. These are found in the mountain ranges surrounding the delta, especially in the Costeña Range (Mora n.d.). Coincidentally, Cansot, the only

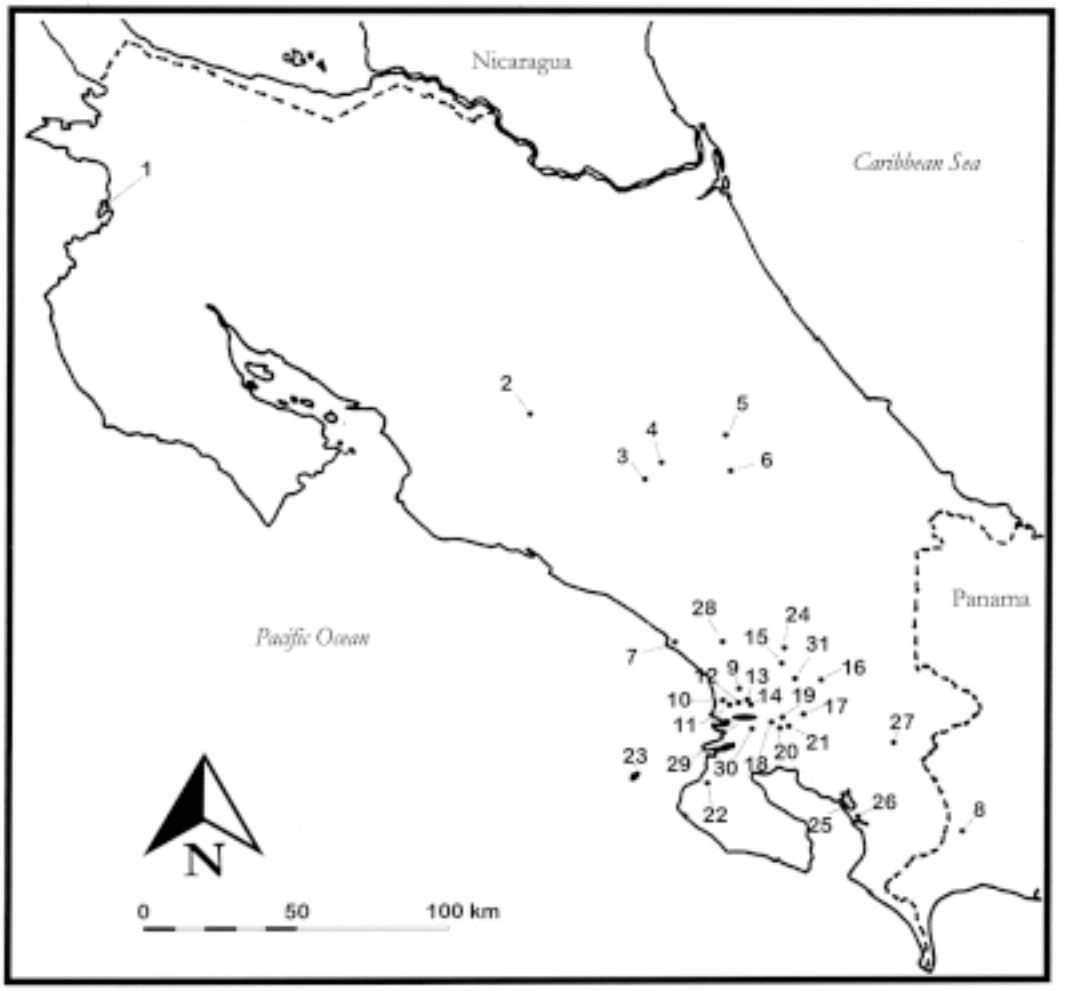

Fig. 10 Archaeological sites in Costa Rica and Panama with reports of stone balls: 1. Papagayo; 2. La Fabrica; 3. Orosi; 4. Santiago; 5. T'alari; 6. Platanillo; 7. Uvita; 8. Santa Marta; 9. San Felipe; 10. Estero Rey; 11. Ojo de Agua; 12. Grijalba; 13. Camaronal; 14. Batambal; 15. Caracol; 16. Bolas; 17. Changuena; 18. El Silencio; 19. Cansot; 20. La Olla; 21. Alto La Soledad; 22. Drake; 23. Caño Island; 24. Cambute; 25. Costa Purruja; 26. Obando; 27. San Vito; 28. Pejibaye; 29. Palmar Sur–Sierpe (Farms 2, 4, 5, 6, 7); 30. La Hacienda; 31. Térraba.

site that shows possibilities of being a workshop for the manufacture of the balls, is located in this same area (Quintanilla n.d.).

The diameter of the majority of the balls ranges from 60 to 120 centimeters, but there are some examples with diameters greater than 150 centimeters that weigh several tons. In Farm 4 and Farm 6, balls have been discovered with diameters greater than 170 centimeters; three of them remain in situ on Farm 6 along with three smaller ones. Apparently, the two balls now at the Colegio de Palmar Norte come from this sector. They measure 212 centimeters in diameter and weigh more than 8 tons.

Fig. 11 Transporting the stone balls was a complex job. Today heavy machinery is used to move balls like this one weighing more than 7 tons.

At El Silencio, at the foot of the Grisera Hills, the largest ball discovered to date measures 257 centimeters in diameter and weighs approximately 15 tons. It originally sat midway up a slope in a spot designed especially for it. The only other objects found near the ball were scattered fragments of ceramic material and waisted axes. The placement of this ball raises the possibility that its location held some significance, perhaps commemorative or symbolic.

The production of stone balls was highly specialized work requiring a great investment of collective labor. It entailed a detailed knowledge of stone fracture patterns, chipping, and polishing. Workers probably used heat and abrupt cooling to loosen convex layers and measuring sticks (of wood or stone) to create the almost perfectly round balls. Chisels, hammers, and abrasives would have been fundamental to the process of chipping and polishing. Levers may have been used to move the block during production and transport. The transport of the spheres from their production sites as pre-forms or finished products required the organization of a considerable work force for moving the blocks and for preparing the land over which the stones were towed. It is important to remember that the area where the balls have been discovered has levels of precipitation that can reach 5,000 millimeters annually (Ash and Solano n.d.). Such rainfall, together with the dense vegetation of the area's tropical forests, means that the preparation of the transport routes likely required cutting down trees and, in the case of the larger balls, possibly positioning tree trunks or paving stones (Fig. 11).

Anthropomorphic Peg-Base Statuary

The elongated, flattened peg-base statues of men and women represent a unique style associated with the Diquís Delta and its immediate environs (Stone 1943; 1977; Mason 1945; Lothrop 1963). The arms and legs of these statues are separated by cuts in the rock. The arms hold staves or are crossed and cover the chest. Hands and feet show individual fingers and toes, separated by incisions in the stone (Figs. 12 and 13). The statues were made primarily from four types of material: gabbro, granodiorite, limestone, and sandstone. A triangular coverlet for women and exposure of the genitals for men differentiate the sexes. Female figures are relatively abundant, a fact documented by Lothrop (1963). Males and females are naked, but wear belts, bracelets, and necklaces, and in some cases possibly display tattoos. The height of the statues varies between fifty centimeters and two meters. Their bases are flattened and in the shape of a peg, suggesting an upright position. In general, sculptural detail is concentrated on the front of the statues, although in some cases there is a demarcation of pelvic bones and shoulders or cords crossing the back (Lothrop 1963; Stone 1977).

Lizard or feline masks, sometimes with serpents emerging from the mouth, are a central motif in peg-base statuary in the delta. (This motif also appears on staff handles made from deer antlers from Jalaca [Stone 1963] and on metal objects from the delta.) Geometric motifs are prominent features of the masks. Some figures have axes and hold trophy heads over the chest or, in the majority of cases, have them hanging by a cord in front or behind. Some statues represent prisoners with tied hands.

Peg-base statues seem to have their origin in the "man-on-slave" statues from Barriles that have been dated by association to the Aguas Buenas Phase and that had very limited distribution. Both types of anthropomorphic statues make use of a base to plant the statue and keep it upright, possibly indicating that they were designed for display in public places. On the other hand, some important settlements in the Diquís subregion, such as at Curré, Murciélago, and Rivas, show little or no evidence of peg-base sculptures. This could be the result, as Drolet (1983; 1988; 1992) proposes, of specialization in artisan industries among settlements in the Térraba River basin. This distribution pattern may result from other factors in addition to specialization, since other areas of the Diquís Delta have peg-base sculpture as well as stone balls, polychrome ceramics, feline-shaped metates, and other highly detailed objects.

Metallurgy in Costa Rica

Information on the origins of metal objects in Costa Rica is scarce (Snarskis 1986; Herrera 1998). The data available show that thus far the oldest metal objects found correspond to a period between A.D. 300 and 800. These discoveries are concentrated in the central part of the country and the northern plains, possibly making these areas the point of introduction for the objects as well as for the science of metallurgy in this part of southern Central America. Warwick Bray (1990) proposes a model for the introduction of metallurgy

Fig. 12 Heads and torsos of peg-base statues (a, b, c, d), and a zoomorphic sculpture with feline traits (e) from the Diquís Delta (after Lothrop 1963)

Fig. 13 A female peg-base sculpture. Note that the triangular-headed serpents emerging from the mouth iconographically resemble serpents represented in metal objects. Photograph by P. A. Ferrazzini, courtesy of the Museo Barbier-Mueller d'Art Precolombí, Barcelona.

in lower Central America in which various cultures between Costa Rica's Atlantic watershed and northern Colombia mixed through gradual and indirect trade. Exchange systems tied to the area's sociopolitical elites may have favored the introduction and learning of techniques that led to technological and conceptual adaptations in local metallurgy.

The presence in Costa Rica of metal objects displaying formal and technological links with specimens from areas in northern Colombia and Panama led Bray (1990) to put forth the idea of an "Initial Style," the introductory phase of metallurgy in Panama and Costa Rica. He has also argued for the existence of an "International Style," a pan-regional style originating in Panama and Costa Rica. In the midst of these dynamics of regional styles and technological adaptations of foreign designs, local styles developed that incorporated new techniques and iconographic variations previously found as local expressions in ceramics and stone (Fernández 1999).

The metallurgy that developed in central Costa Rica beginning in A.D. 500 was incorporated into the metallurgy that began developing after A.D. 700 in the southeast and northeast of the country. These two styles are related by iconography, technological details, and open-mold casting without use of a core (Fernández and Segura 1998). Data is limited for the origin of metalwork in the Diquís Delta. There are no references to metal objects produced prior to A.D. 800 that are associated with archaeological sites in the delta. The introduction of metallurgy to the delta appears to have been delayed, but, once introduced, local styles developed rapidly.

Metallurgy in the Diquís Delta

Contextual information is largely lacking for the majority of Pre-Columbian metal objects originating in Costa Rica and now housed in museums worldwide. All available data—given their formal and technological characteristics and the testimony of people who collected them—indicate the country's southern Pacific region as their point of origin. For example, more than ninety percent of the collection of the Banco Central de Costa Rica's (BCCR) Museo del Oro collection is identified as coming from southern Costa Rica.

Pre-Columbian metal objects from the southern Pacific region were made of gold or copper and in some cases the gold-copper alloy known as *tumbaga* or *guanín*. The Diquís Delta, located as it is in the northern part of the Osa Peninsula and connected to Punta Burica, has been labeled a "metalogenic" province, meaning it has a concentration of mineral ore in economically exploitable form along with placer gold deposits (Organización de Estados Americanos 1978). The rivers and streams descending from the mountains of the Osa Peninsula carry gold in their sediment. Today gold is still extracted manually from the Sierpe, Drake, Llorona, Brujo, Corcovado, Sirena, Claro, Nuevo, Tigre, Agujas, Barrigones, Conte, Rincón, Riyito, and the Esquinas Rivers (Fig. 14). In a few cases, it is industrially recovered. On Violín Island in the delta, gold is found in sediments in small gorges. In this area in the 1960s, prospectors found a nugget weighing 2.3 kilograms, the largest reported in Costa Rica. Other alluvial gold deposits can be found in various rivers of southern Punta Burica and in the La Vaca River (Castro and Vargas 1982; Cooke et al., in this volume).

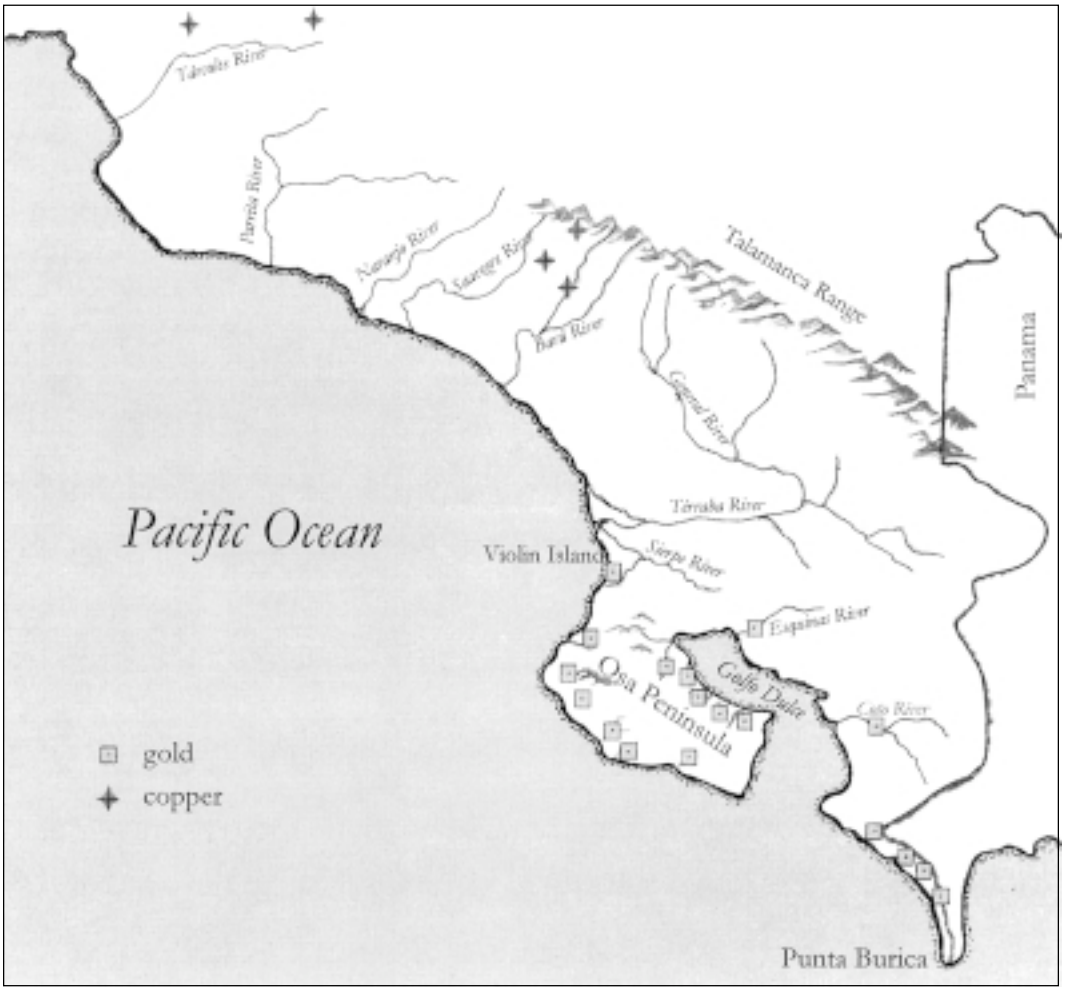

Fig. 14 Gold and copper deposits in the central and southern Pacific regions of Costa Rica

To date, no natural copper deposits have been discovered in the southern Pacific region. The most famous Costa Rican copper deposits are located in Guayabo de Mora and Tarbaca de Aserrí, in the Central Region, associated with the Viejo and Tigre Rivers and the Tarbaca Gorge. The Talamanca Range also contains veins or scatterings of sulfide and porphyritic copper, along with mineralizations that include pyrite, chalcopyrite, and pyrrhotite (Castillo 1997).

There have been few studies of the physical and chemical mineralogical composition of Pre-Columbian metal objects from Costa Rica. Recently, analysis has been carried out on select Costa Rican Pre-Columbian metal objects as part of an exploratory study for the Pre-Columbian Metallurgy Techniques project conducted by the Museo del Oro Precolombino (Fernández and Segura 1998). Among the samples are three objects from Farm 4 in Palmar Sur that were analyzed by X-ray fluorescence spectroscopy. Preliminary results show these disks to be composed of gold, copper, and silver (Table 2) (Fernández and

Segura 1998). Ottavio Durando (1959) revealed the presence of silver in Pre-Columbian metal objects from the southern Pacific region and, because of the data available at that time, determined that it must have come from foreign sources. Recent analysis, however, shows that the percentage of copper and silver in these sheets is similar to the amounts in natural gold nuggets collected from rivers in the Osa Peninsula. The peninsula nuggets that have been used for comparative analyses are also similar in composition to one another. This suggests that these laminated objects were produced locally, utilizing placer deposits from the Osa Peninsula and neighboring areas in the southern Pacific region.

Analysis of ten cast objects from Palmar Sur and neighboring zones reveals average values ranging between seventy percent and ninety percent gold, less than ten percent silver, and ten to twenty percent copper. The sample used was not large enough to establish a pattern of alloy ranges. The objects' forms, styles, and manfacturing techniques do suggest metallurgic production unique to the southern Pacific region, specifically to the Diquís Delta and neighboring areas.

In order to determine local production of metal objects in the Diquís Delta, the group of metal objects from Farm 4 and from the collection of BCCR's Museo del Oro Precolombino has been used to establish a series of classifications. These are defined according to manufacturing technique, form, and distinctive characteristics that can be typified as the local style of the Diquís Delta. Moreover, these classifications take into account particular technological and formal divisions that allow their consideration as part of an iconography associated with other artisan production in southeastern Costa Rica. There are two Diquís subdivisions: cast objects and sheet objects (Tables 3 and 4).

Cast Objects

Four classifications of cast objects have been established based on the Farm 4 analyses (Table 3). These groups display elements associating them with the technological tradition of northern Colombia, which features open-mold casting with oxidation gilding and cast filigree. They also resemble goldsmithing styles developed before A.D. 700 in central Costa Rica, an area noted for the use of direct wax models without cores for shaping cavities and for distinct motifs that include a man with a lizard mask and serpents emerging from his mouth. These motifs have antecedents in jade figures and flying-panel metates from the period A.D. 1 to 500 (Snarskis 1998; Fernández 1999; Hoopes and Fonseca, this volume).

The main morphological characteristics of the Diquís style are the presence of cast filigree or modeled lizard decorations; wings in the form of a half moon with marginal decoration of braided cord, balls, or rectangles; slightly curved rectangular bars that frame the figures or resemble bird tails; articulated objects linked by hooks that are part of the casting; and hanging plates (Fig. 15a, b, c, d, e; Aguilar 1972: figs. 14, 15, 23). The Diquís style generally exhibits casting problems, with mold fractures visible on various parts of the figures.

Lothrop (1963) identifies a group of possibly local objects from Farm 4 as variations of the Veraguas type. He based his conclusion in part on the poorly executed finish on some of

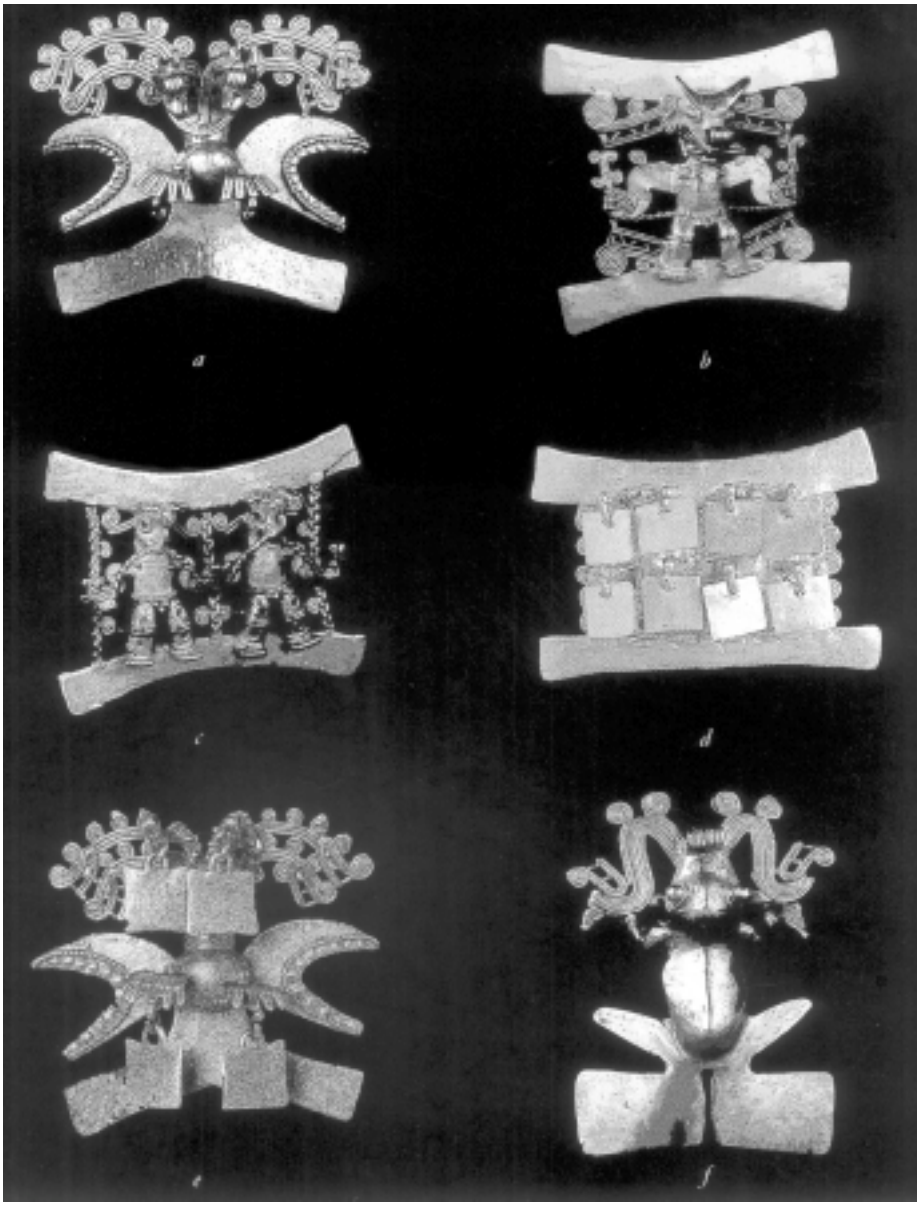

Fig. 15 Cast gold objects from Farm 4, Palmar Sur–Sierpe. Banco Central de Costa Rica, Museo del Oro.

the pieces. These objects consisted of birds with unusual wings and claws, lateral head decorations, and combinations of spirals and lizard stylizations of cast filigree; some pieces have plates that hang from their claws (Lothrop 1963: pl. xxxiv). These objects comprise Group 1 in this study. Group 2 consists of anthropomorphic figures with animal heads (Lothrop 1963: pl. xxxv). Similar objects have been reported from Chiriquí by William Holmes (1887: fig. 6) and at the Panteón de la Reina site in Costa Rica by George McCurdy (1911: figs. 272, 372). Lothrop (1937: fig. 163a) relates these to similar pieces from Coclé that bear a crown of small birds in the form of a hat on the head of a figure.

Groups 1 and 2 are associated with another type of figure that Lothrop reports from Chiriquí and Veraguas (1950: fig. 110c; 1963: pl. XXXVI). In this study, it is included in Group 3, which is characterized by reptile stylizations of cast filigree attached to figures in the form of a hat. Wings in the form of a half moon with marginal decoration of braided cord are a formal defining element of this group. Stylistically related examples are reported at Veraguas and Chiriquí. The pieces from Diquís, however, exhibit slightly different formal characteristics that render them distinct from, though related to, the Panamanian pieces (McCurdy 1911: figs. 366, 369). There appear to be technological variations in alloy and surface finish, but these must be confirmed through further comparative analyses of objects originating from Panama and southern Costa Rica.

Reptile-stylized false filigree is a common design element among the Diquís and the Veraguas and Chiriquí styles. Claws in the form of separated fingers, made with cords and associated with hooks for hanging plates, tend to be more closely related to Diquís pieces than others, which usually have claws with joined and bent fingers (Holmes 1887: fig. 8; Lothrop 1937: fig. 44; McCurdy 1911: figs. 354, 356, 357). Wings in the shape of a half moon with braided-thread marginal decorations are prevalent among Diquís figures, in contrast to Veraguas and Chiriquí figures, which usually have flat arms, bent downward, without volume (McCurdy 1911: fig. 370). Hands in an oval position made with twin threads bent at the ends are a shared regional trait.

Another formal trait that is undoubtedly characteristic of the Diquís Style consists of slightly flat rectangular bars that surround the figures on top and bottom. Bars on Veraguas and Chiriquí figures are curved more and have stylized reptile extensions (McCurdy 1911: figs. 365, 369). Curved bars appear on Diquís bird tails. On articulated objects of three or more parts, the sections are linked by hooks such that the second piece hangs from the top piece and the third in turn hangs from the second. This arrangement constitutes Group 4 (Table 3).

Within Group 4 is a collection of six pendants from the second interment at Farm 4 that Lothrop describes as bat gods (Lothrop 1963: pls. XVII, XVLIII). This collection is characterized by the presence of two identical anthropomorphic figures marked on the upper and lower parts by slightly curved rectangular bars. Another characteristic of Group 4 is an elongated headdress in the form of cast filigree reptile stylizations. These pieces have six to twelve plates hanging from hooks on the front of the figures. Also among the Farm 4 group is a series of cast objects representing frogs, bells, and Veraguas-Chiriquí style birds that are not considered part of the Diquís style.

Frogs with flat, rectangular legs found in Chiriquí interments are without a doubt of both Panamanian and Costa Rican origin (McCurdy 1911: fig. XLVIII; Holmes 1887: fig. 13; Lothrop 1937: fig. 86a). Such frogs have been reported around Puerto González and La Vaca (Balser 1962), in the Panamanian border region, as well as in Palmar Sur. Due to their widespread appearance, they are not considered part of the Diquís style, although they share formal elements, such as serpents made from cast filigree (Fig. 15f). This is also true of the bells from Farm 4 with reptile-man figures. Similar specimens have been reported from Chiriquí by Holmes (1888: figs. 41–43).

The Veraguas-Chiriquí type birds found at Farm 4 and identified by Lothrop as Veraguas style have bent wings and long, curved beaks (Lothrop 1963: pl. XXXIII). They resemble birds with habitats along southeastern Costa Rica and the Veraguas-Chiriquí regions of Panama. The discoveries from Farm 4, however, appear to be technologically distinct in their alloys and gilding.

As part of the Pre-Columbian metallurgy project of BCCR's Museo del Oro Precolombino, ten bird objects of the Veraguas type (with various dates) from southeastern Costa Rica were analyzed for chemical composition. Preliminary data suggest differences in alloy composition between these figures and Veraguas type birds from Farm 4. The alloys of the Farm 4 birds appear to be more consistent with alloys from Group 4 than with alloys of birds typically considered Veraguas-Chiriquí.

Although more analysis of Costa Rican metalwork needs to be carried out, preliminary studies suggest a local production of forms decorated with styles having a more widespread distribution and regional character than previously thought. At any rate, the large collection from Farm 4 reveals local production of gold objects as well as interaction with other regional groups.

Sheet Objects

The manufacture of sheet objects in Costa Rica occurred concurrently with the production of cast objects. Some Diquís cast pieces exhibit hammering as a finishing technique. This is evident on the rectangular legs of frogs and on some of the rectangular bars of Diquís figures. Analysis with a scanning electron microscope and X-ray fluorescence spectroscopy revealed that two circular disks and a tubular bead were hammered from nuggets (Fernández and Segura 1998). Four groups of sheet objects have been identified based on the form and decoration of discoveries from Farm 4 (Table 4). Most of these objects are circular disks with repoussé in patterns of points, balls, and rectangles in relief, as well as conical protuberances made with dies (Figs. 16a, b, c, d, e).

Within the Farm 4 group are thirty flat disks of various sizes that have been placed in Group 1a. Group 1b consists of various sized disks with stylized reptile decorations and associated in some cases with relief cones (Fig. 16e). It is possible that this group is not directly related to the Farm 4 discovery; however, because there is a large quantity of this type of object in the collection of the Museo del Oro Precolombino reportedly from Palmar Sur, it was included in this category. Technologically these pieces exhibit the same characteristics as the rest of the hammered objects and have border decoration of points, allowing them to be labeled as being of local Diquís production.

Group 1c comprises disks with conical reliefs (Fig. 16b). Lothrop (1963) considers them typical of what he calls the Veraguas style found at Chiriquí and in northern Colombia. Although it is certain that a stylistic and functional relationship exists between Costa Rican objects and finds from these areas, the objects from Farm 4 and its environs exhibit homogeneity in thickness, gilding, and the use of balls and repoussé in border patterns. Such decorative elements are also found in cast objects determined to be of local production.

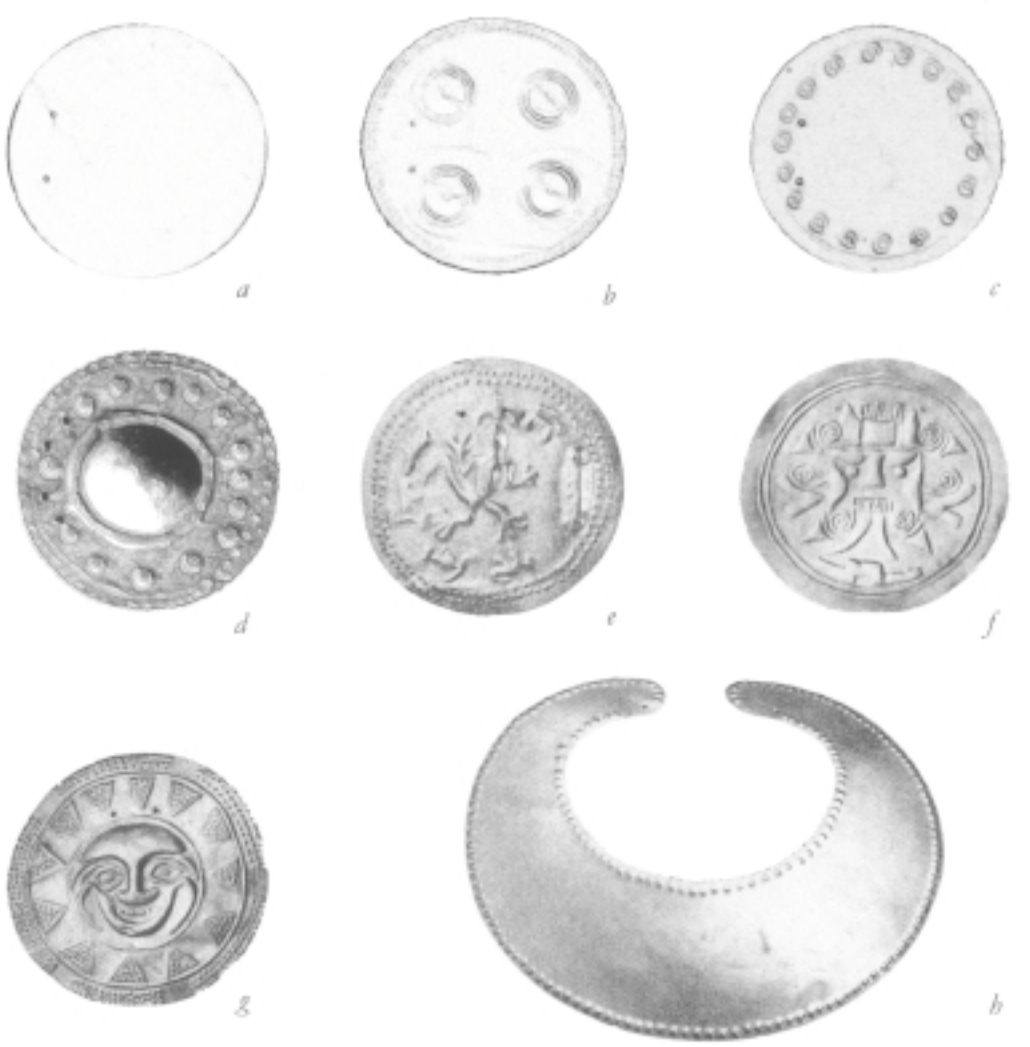

Fig. 16 Laminated gold objects from Farm 4, Palmar Sur–Sierpe. Banco Central de Costa Rica, Museo del Oro.

Five of the Farm 4 disks exhibit little iconographic relationship to the Diquís style, and therefore may be of foreign manufacture (Fig. 17f, g). At the same time, however, the disks with rectangular and border repoussé are widely represented in areas bordering Farm 4 (Lothrop 1963: pl. XLVIII). For this reason they are included in Group 2, as are horseshoe-shaped breastplates with similar decoration (Fig. 16h). Group 3 consists of diadems, bracelets, and anklets from Farm 4. Marginal decoration of points and balls in relief links them by iconography with the rest of this group (Fig. 17). Group 4 is composed of beads made from doubled sheets with little decoration.

This article has attempted to characterize local goldsmithing production in the Diquís Delta. It is clear, however, that other goldsmithing styles characteristic of southeast Costa

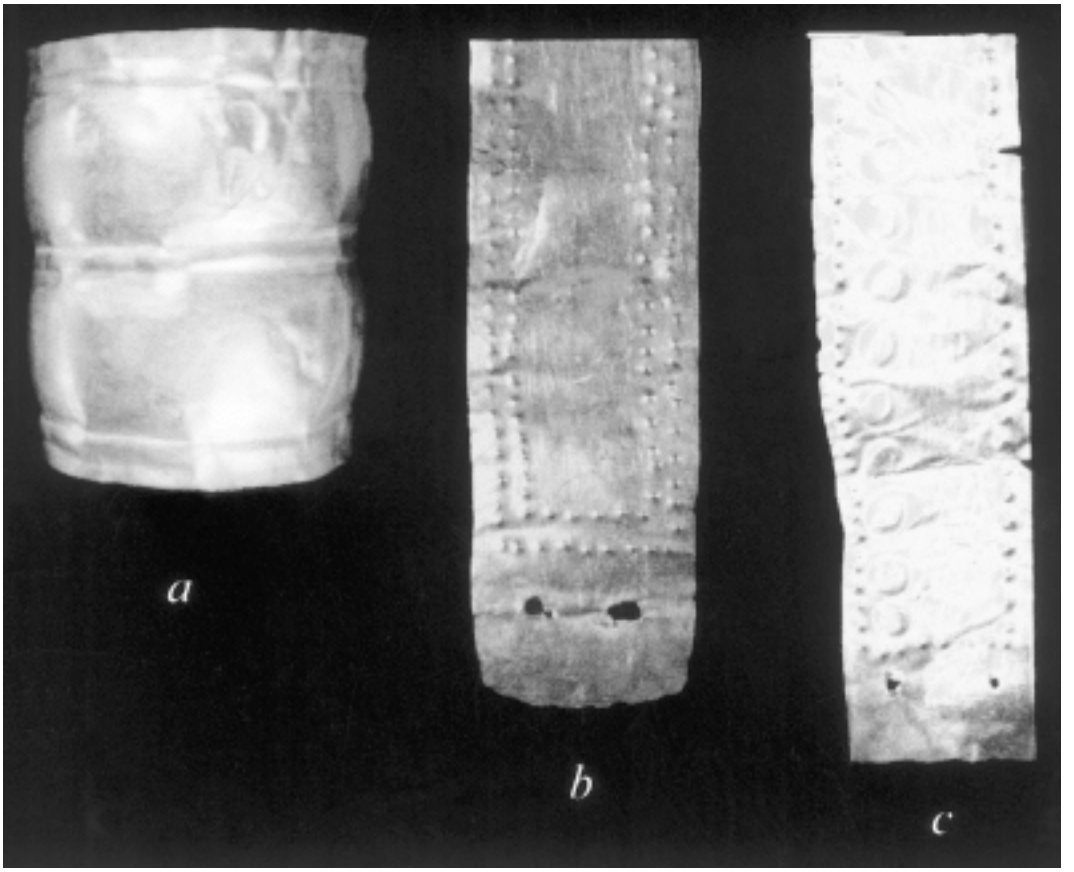

Fig. 17 Sheet gold objects from Farm 4, Palmar Sur–Sierpe. Banco Central de Costa Rica, Museo del Oro.

Rica are present, as well as objects that can be classified as reflecting regional styles that arrived in the delta through trade. Thus, the possibility exists that within the Diquís Delta the production of metal objects served two purposes: the creation of objects for use by the local elite and the production of trade goods. The Diquís Delta appears to have been a producer and recipient in a dynamic and complex network of local, regional, and greater regional relations.

Local Styles

The relationships among statuary, stone balls, and metallurgy in the Diquís Delta are apparent on various levels. At one level are their contemporaneity and association within the same social context, while on another are their shared stylistic elements. Stylistically, the relationship is strongest between statuary and metallurgy because of shared iconographic motifs. In this respect, the stone balls are a peculiarity in that their central motif is roundness, which contrasts with representational styles in Greater Chiriquí statuary, metallurgy, and ceramics. While representations in other artistic media, such as ceramics, are concerned with

the natural world, the balls represent an abstraction involving the conceptual elaboration of roundness in a solid body. It is highly probable that this representation relates to the worldview, cosmology, or astronomical knowledge of the balls' makers. The balls' locations in public areas and their associations with habitational and ceremonial sites point toward their use as symbols of power and as ethnic identifiers.

It is possible that a relationship exists between the stone balls and representations of balls in repoussé and cast metal on objects, similar to the relationship between the protuberances on laminated objects and the border decorations on the curved wings of cast objects. These same globular representations can, however, be found on gold objects reportedly from Panama and Colombia, and thus are not restricted locally.

Peg-base statues are stylistically linked with representations in metal and other lithic materials in their depiction of human figures with lizard or feline masks and two-headed serpents with triangular heads. The metallurgical motif of a man with a lizard mask and serpents emerging from his mouth constitutes a central representation in peg-base statuary in the Diquís Delta. This motif is also present as staff handles made from deer antlers from Jalaca. Likewise, bone figures carved in the round from Jalaca are similar to other statuary in the round from the delta. Two-headed serpents with triangular heads emerging from the mouth and appearing as cords on the body are often found on various metal objects and peg-base statues from the Diquís Delta. This might be an indicator of local and contemporary manufacture of both forms of artistic media.

Production of Power Symbols in Sierpe-Térraba

The production in the Diquís Delta of stone balls, peg-base statues, and personal ceremonial objects of gold and gold-copper alloys can be explained in the political, economical, and social contexts of these complex societies. The specialized production of stone sculptures and metal objects together with other artistic expressions that are not preserved in the archaeological record may form part of what can be called an "atmosphere of power," in which the handling of ideological and symbolic affairs was a necessary and vital complement to the economic and political activity of the societies in the delta. Among the societies that once inhabited the area, the elite demonstrated their power through their access to magnificent goods, such as metal objects for ornamental and possibly for ritual use, and their ability to mobilize and organize manual labor on a large scale for the production of finely crafted objects and other collective works.

It is possible that early populations in the delta and its environs acquired such "exotic" objects as gold through trade. For reasons unknown, this situation changed around A.D. 800, when conditions for the specialized production of highly detailed objects emerged.

Placer deposits on the Osa Peninsula and Violín Island were determining factors in the development of a specialized gold object industry in the delta and its environs. The availability of this resource at a time when the possession of metal objects became an important goal for the regional elite must have been of great benefit to the people inhabiting the area. The presence of gold in the Osa Peninsula must have made control of the area of great importance.

Metallurgy rapidly developed in the Diquís Delta and its environs after A.D. 800. It is possible that the Delta saw the arrival of specialized artisans from production zones in Panama and Colombia or that local artisans were displaced to other specialized production centers, subsequently returning and beginning an intensive exploitation of available resources. A combination of the two is also possible, or, as in Bray's (1990) networking theory, there might have been a gradual migration of knowledge between neighboring villages. It is necessary to note that this extraordinary production occurred in the southern Pacific region of Costa Rica in the absence of prior traces of technique development and independent experimentation. This is particularly remarkable given the technological command and the development of unique delta styles.

In the case of statuary, there was a long tradition of Greater Chiriquí stonework, with balls and peg-base statues developing over hundreds of years in different areas. What is important in the case of the Diquís Delta is the appropriation and reprocessing of technology, forms, and styles, and above all the large scale on which production occurred.

These developments must be understood within the context of societies with surpluses and high levels of food production, permitting the dedication of labor to non-agricultural pursuits. Goldwork required individuals dedicated to the extraction of the metal, its initial treatment, and production of objects, including oven preparation, cutting wood for fuel, creation of clay molds, extraction of wax from beehives, experimentation with techniques, finishes, soldering, and so on. Although not everyone participating in the process had detailed knowledge of the entire process, the creation of the objects and decisions about iconography required artisans with great technical skill and knowledge of the symbolic world of the society in which they lived and for which each object was produced.

Metal objects were possessed by individuals for ornamental use in daily wear and, above all, for special activities. This is no different from the role of other specialized products. All such objects belonged to a universe in which the use of public symbols (balls and peg-base statues, monumental architecture, public spaces) and lavish objects for personal use (metal ornaments and other objects not preserved in the archaeological record) form part of a set of visual images that demonstrate, at an ideological and symbolic level, the power, productive capacity, and organization of this society.

Chieftains, Power, and Stratification in the Diquís Delta

The data presented in this article point to the existence of complex societies in the Diquís Delta, where an important production of power symbols occurred through stone sculpture and metallurgy. In addition to this, we would like to propose that there was centralization evidenced by a hierarchy among settlements and differential access to luxury goods. However, this requires more study and for now is no more than a working hypothesis.

Following Timothy Earle (1987; 1997), the legitimization of power and the centralization and appropriation of access to goods by certain members of the group might have resulted from success in increasing the production of food—through better technologies, improvement of species, use of various food resources—and success in the organization of

work, leading to the formation of a ruling class charged with organizing production, distribution, and relations with other groups. Moreover, this ruling class likely controlled ideological apparatuses through such roles as military leaders, priests, physicians, and masters of collective works. The use of knowledge, oral tradition, and medicine must also have been fundamental.

The distribution of such architectural remains as mounds, foundations, and paved streets and the density of ceramic material and lithics suggests that a primary center developed within the Palmar Sur–Sierpe area that was able to play the determining role in the centralization and coordination of economic, political, and social activities between the villages of the Diquís Delta and its environs after A.D. 800.

Among the principal settlements in the delta, a large investment of collective effort is in evidence for the construction of works that could have been intended for public and individual use by different sectors of the group. The construction of mounds with stone walls and earthen fill, the building of roads, the clearing of large tracts of forest, and the transport of large stone balls indicate the presence of an organized population ready to undertake such works.

Assuming that the Diquís Delta was a zone of local development within the Greater Chiriquí region, the presence of stratified societies is likely. This stratification can be thought of in qualitative terms as segments of society distinguished by rank, status, and role in production. It can also be viewed in terms of differentiated access to goods, indicative of control over the economy by elites (Earle 1987; 1997). If Lothrop's information about the two interments in Farm 4 is reliable, it would indicate the presence of individuals of high status who were buried with gold goods in a display of quantity and quality unique in Costa Rica. This, like the other proposals raised in this work, must be verified against the archaeological record.

The material conditions in the delta and its environs after A.D. 800 can be see in preceding phases. In other words, excess production and specialized artisans and groups with rank or power must have existed in the Aguas Buenas Phase as Drolet (1983; 1988; 1992), Corrales, Quintanilla, and Barrantes (1988), and Hoopes (1996) have proposed. The later occupations of the Diquís Delta benefited from this process of social change.

Developments in the delta are not unique in the southern Pacific subregion. Rivas (Quilter and Blanco 1995), Murciélago (Drolet 1983; 1988; 1992), Curré (Corrales 1985; 1988), and Grijalba (de la Fuente n.d.) also achieved important architectural development. It would appear, however, that Murciélago and Rivas never developed the public symbols that occurred in the Diquís Delta and its immediate environs.

One issue requiring greater documentation is local production for local consumption of highly elaborated objects with ideological and symbolic content, such as the stone balls, the peg-base statues and statues carved in the round, and the metal objects in the Diquís Delta after approximately A.D. 800. The absence of some of these elements or their limited presence in sites with complex architecture within the same subregion might indicate that the production of the majority of these objects was directed toward the internal consolidation of a society that we cannot yet identify. In this sense, the production of specialized

industries in ranked or class-based societies can be considered not only in terms of exchange goods between and for the elite, but also in terms of the ideological manipulation of aesthetics, value as a people, and ethnic identity.

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Table 1. Archaeological Sites with Reports of Stone Balls in Costa Rica and Panama

Site	Location	Archaeological Region	No. of Balls	Source
A-10 La Fabrica	Alajuela, Central Area	Central	1	Guerrero, Juan Vicente, personal comunication 1993
Orosí	Orosí, Cartago	Central	±8	Hartman 1901
Platanillo	Turrialba	Central	3	Kennedy 1966
Talari	Bajo Pacuare, Turrialba	Central	4	Hurtado and Gómez 1988
Alto la Soledad	Fila Grisera, Olla Cero	Greater Chiriquí	1	Corrales, s.d.
Cambute	Buenos Aires	Greater Chiriquí	1	Drolet and Markens n.d.
Caracol	Buenos Aires	Greater Chiriquí	1	Drolet and Markens n.d.
Changuena	Middle basin of the Térraba River	Greater Chiriquí	2	Stone 1954
Farm 1, Section 19	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	5	Lothrop 1963
Farm 2	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	7	Stone 1943
Farm 2, Section 40	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	7	Lothrop 1963
Farm 4, Sections 23 and 36 (Sites A, B, C, E, G)[1]	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	20+8	Lothrop 1963; Badilla, Quintanilla, and Fernández 1998
Farm 5	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	3	Stone 1943
Farm 5, Section 32	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	7	Lothrop 1963
Farm 5, Broken Stone	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	1	Lothrop 1963
Farm 5, Section 19	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	1	Lothrop 1963
Farm 5, Section 33	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	14	Stone 1943
Farm 6 (East End)	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	2	Lothrop 1963
Farm 6 (West End)	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	5	Lothrop 1963
Farm 7	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	10	Lothrop 1963
Caño Island	Caño Island	Greater Chiriquí	2	Finch and Honetschlager 1985; Corrales and Leon n.d.

Table 1. Continued

Site	Location	Archaeological Region	No. of Balls	Source
La Hacienda	Sierpe, Diquís Delta	Greater Chiriquí	5	Quintanilla, in prep.
La Olla	Fila Grisera, Olla Cero	Greater Chiriquí	5	Stone 1943
P-254 Plantation 6	Palmar Sur–Sierpe, Diquís Delta	Greater Chiriquí	6	Baudez et al. 1993; Quintanilla n.d., in prep.
P-257 El Silencio[2]	Palmar Norte, Diquís Delta	Greater Chiriquí	1	Quintanilla n.d.
P-260 Grijalba	Ciudad Cortés, Diquís Delta	Greater Chiriquí	1	Quintanilla n.d.
P-261 Cansot[3]	Fila Grisera, Olla Cero	Greater Chiriquí	2	Quintanilla n.d.
P-263 San Felipe	Ciudad Cortés Wetlands, Diquís Delta	Greater Chiriquí	3	Quintanilla n.d.
P-283 Ojo de Agua	Ojo de Aqua, Ciudad Cortés, Diquís Delta	Greater Chiriquí	6	Quintanilla n.d.
P-284 Estero Rey	San Buena, Ciudad Cortés	Greater Chiriquí	9	Quintanilla 1992
P-295 Camaronal	Palmar Norte, Diquís Delta	Greater Chiriquí	2	Hidalgo 1993, Quintanilla n.d.
P-297 Drake	Devke, Agujitas	Greater Chiriquí	4	Quintanilla n.d.
P-299 Batambal	Palmar Norte, Diquís Delta	Greater Chiriquí	2	Quintanilla n.d.
P-313 Costa Purruja	Golfito	Greater Chiriquí	1	Hoopes n.d.
P-315 Obando	Golfito	Greater Chiriquí	4	Hoopes n.d
P-63 Curré	Curré	Greater Chiriquí	1	Quintanilla, in prep.
P-97 Bolas	Bolas	Greater Chiriquí	5	Drolet and Markens n.d.
San Vito	San Vito	Greater Chiriquí	1	Minelli and Minelli 1966
Térraba	Bajo Veragua, Térraba, Buenos Aires	Greater Chiriquí	2	Drolet 1981
Santa Marta	Chiriquí, Panama	Greater Chiriquí	1	De la Guardia 1963
Papagayo	Culebra Bay	Greater Nicoya	2	Baudez 1959

[1]In 1996 rescue archaeology occurred in this sector. Eight stone balls were found, some of which could be those reported by Lothrop.
[2]This is the location of the largest ball reported to date. The ball has a diameter of 257 centimeters and weighs approximately 15 tons.
[3]The balls at this site appear to be in a workshop. Gabbro and granodiorite outcroppings are nearby.

Table 2. Quantitative Analysis by X-ray Fluorescence Spectroscopy. Percentage of Elements in Metal Objects and Gold Nuggets from Southeastern Costa Rica

Object	Dimensions	Gold	Silver	Copper
Circular Disk	11.90 cm. Diam.	95	3.7	1.38
Circular Disk	9.30 cm. Diam.	93	5.9	1.4
Laminated Bead		93.87	5.92	0.21
Agujas River Nugget		96.66	3.05	0.29
Tigre River Nugget		94.84	3.21	0.14

Note: Concentrations were determined by X-ray fluorescence spectroscopy.

Table 3. Formal characteristics and techniques of cast metal objects from the Diquís Delta, Costa Rica found in the BCCR collection

Forms	Manufacturing Technique	Distinctive Traits
Group 1 Bird figures with lateral decorations of spirals and lizard stylizations	Casting open in the head, beak, and abdomen areas Gold-copper alloy with gilding Use of cast filigree Use of cast plates added to the objects	Wings in the form of a half moon with or without border decorations of balls in relief; balls are made with wax using repoussé Claws with separated digits made like cord and associated with hooks to hang plates Forked tails with laminate finish 7 to 12 cm high and 11 to 13 cm wide Objects more wide than high
Group 2 Anthropomorphic figures with zoomorphic heads or masks	Casting open in the head area Gold-copper alloy with gilding Use of cast filigree	Reptile stylizations in the form of headdresses, on the lower part of figures, and occasionally at the ends of wings Flat, slightly curved bars above or below figures Human bodies with belts and anklets Bird or reptile masks 7 to 9.5 cm high and 7 to 9.5 cm wide; square objects
Group 3 Two-headed or single-headed bird figures with stylized headdresses of reptiles or flat bars	Casting open in the head and beak areas Gold-copper alloy with gilding Use of cast filigree Balls in relief on the edges of the wings detailed using wax Cast plates added to the figures Figures divided into two or three parts joined with hooks produced in the same casting, sections attached in the way that plates are hung from the claws of some figures	Stylized reptile headdresses in one or two bands and flat plates; eyes in the form of bells Figures with decorative filigree bordering the eyes and chin; outline of the eyes form the body of a bird and the outline of the beak and tail form a quetzal Wings in a half moon with border decoration of braided or single threads and balls in relief Claws with digits formed like thread, the majority with hooks suspending plates Flat, forked tails with straight tips Figures rigid or divided into two or three parts, joined with hooks that allow movement when suspended Suspension hoops worn by use 7.8 to 8 cm high and 8.6 to 9.2 cm wide; objects more wide than high

Table 3. Continued

Group 4 Single or double anthropomorphic figures marked by flat, slightly curved bars	Cast figures of gold-copper alloy with gilding Figures modeled and molded directly in wax without using a partial nucleus Majority of objects show casting defects due to breaks in the mold Cast plates added to the figures	Anthropomorphic figures single and in pairs; nose seems to represent a bat face; eyes rounded, twisted, or square designed using wax; arms are always slightly curved and solid; trunk and legs show lateral hollows, perhaps resembling a skeleton; presence of nipples and navel Crownlike braided thread or heads of small birds; legs bound at the knees; cord braided with serpent tails is held in the hands and held in the mouth Rectangular, slightly flat bars above and below the figures Suspension hoops do not show wear from use, some figures do not have them Groups of nine plates hang from the front of the figure with hooks 4 to 7 cm high and 6 to 9 cm wide; objects are more wide than high

Table 4. Techniques and Traits of Sheet Metal Objects from the Southern Pacific Region of Costa Rica

Forms	Technique	Traits
Group 1a Flat and concave disks	Hammered from nuggets Use of molds to create concavity	Flat disks without decoration or with border decoration of repoussé points Concave disks without decoration or with border decoration of repoussé points Presence of decorations on top of smoothed or erased decorations Suspension holes on the upper part for wearing from use Diameter of 3 to 21 cm
Group 1b Disks with zoomorphic decorations (reptile)	Hammered from nuggets Use of repoussé as a decorative technique	Primarily schematic reptilian zoomorphic decorations Occasionally have decoration of repoussé points Diameter of 5 to 10 cm
Group 1c Disks with conical decorations	Hammered from nuggets Use of molds to create the conical protuberances Use of repoussé for decoration	Conical decorations in patterns of one to seven cones, occasionally mixed with circles and repoussé points around the edges Suspension rings for wearing Diameter of 7 to 30 cm
Group 2 Disks and pectorals in the shape of a horseshoe	Hammered from nuggets Use of repoussé as a decorative technique	Marginal decoration of balls and rectangles in relief and occasionally a central cone, without the presence of zoomorphic or anthropomorphic figures Diameter of 11 to 22 cm Pectorals 9 cm in width and 29 cm in height
Group 3 Diadems, bracelets, and anklets	Hammered from nuggets Use of repoussé as a decorative technique	Smooth or with border decoration of balls and rectangles in relief Suspension holes for wearing Diadems averaging 55 cm length and 2.5 to 5 cm in width. Bracelets 8.5 cm in width and averaging 25.8 cm in length Anklets 11 cm in width and averaging 33 cm in length
Group 4 Sheet beads	Hammered from nuggets	Thin, coiled sheet without decoration 3 to 10 cm in length (the largest beads being used as earrings)

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The Political Economy of Pre-Colombian Goldwork: Four Examples from Northern South America

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Introduction: The Problem

Some twenty years ago, Alicia Dussán de Reichel (1979: 41) complained that studies that "set out to place the prehistoric metallurgy of Colombia within a wider context of cultural development" were not very numerous. Despite a great deal of research on Pre-Columbian goldwork since, the same observation remains true today. One source of frustration comes from the fact that most archaeologists focus on the study of metallurgy as a goal in itself. Although researchers have produced detailed descriptions about the technological characteristics of Pre-Columbian goldwork (Scott 1981), timelines, definitions of "styles" and "traditions," as well as correlations among styles across Colombia, Lower Central America, and Ecuador (Bray 1981; 1992a; 1997; Plazas and Falchetti 1983), and identifications of plant and animal species represented in ornaments (Legast 1987), they have rarely placed goldwork within a social context (Looper 1996) or incorporated it in models related to social change. Whatever improvement in the research on Pre-Columbian metal objects there has been, further progress will be limited if it is not aimed at understanding the way societies function and change (Lechtman 1984).

Thus far, studies of Pre-Columbian goldwork have produced several important contributions: evidence of the possible correlations between the distribution of certain objects and cultural units, particularly relating to the Macro-Chibchan question (Bray 1992a); the argument that societies where goldwork is found most likely indicate a "relatively complex political organization that include[s] social stratification and centralized power" (Plazas and Falchetti 1983); and the assertion that goldwork was closely related to shamanistic activities (Reichel-Dolmatoff 1988; Looper 1996). These arguments have been proffered in an interpretation of the trajectory of southwestern Colombian societies, including those of the Calima, Tierradentro, San Agustín, and Quimbaya archaeological regions (see Map 1), which are thought to have had a relatively homogeneous goldworking tradition that produced some of the most impressive goldwork between 550 B.C. and A.D. 900. The societies of this period exhibited highly developed political organization, some cultural unity, and power relations

Map 1 Shaded area locates the southwest Colombian goldwork tradition between 550 B.C. and 400 A.D.

involving shamanistic activities. After A.D. 900, this tradition was replaced by less impressive goldwork, indicative of cultural decline or even the arrival of "less-developed" groups to the area.

This interpretation has led to some of the most productive research in Colombian archaeology, but at the same time it has notable analytical flaws. Comparisons between goldwork styles have been based on somewhat arbitrarily selected lists of traits of gold ornaments found in the Colombian southwest; a complete inventory of traits does not exist. Furthermore, explanations for the distribution of similar traits have rarely gone beyond the traditional "migrations" or "influences," which contributes little to the study of social change in northern South America. A correlation between the presence of goldwork, or impressive adornments, and a specific kind of social organization has proven to be problematic: goldwork was present and produced among a wide variety of Pre-Columbian societies, including "egalitarian" ones (Helms 1981; Langebaek 1989; 1999). Additionally, basing the idea of a shared ethnic identity on stylistic similarities of a few elite objects is dubious at best (Langebaek 1990b; Doyon 1995). Many kinds of gold ornaments are found in southern and northern Colombia, and styles like Classic Quimbaya share numerous traits with southwest and northern styles though they have been considered distinct or even unrelated. Some ornaments correlate with the dispersion of linguistic families, but others certainly do not. Furthermore, the stylistic correlations used to indicate the direction from which these "influences" came are dubious given the lack of clearly established archaeological contexts and reliable dates. No doubt, although the use of goldwork as it relates to shamanistic activities is an immense contribution to the study of goldwork's meaning, the presence of shamanism in a society does not necessarily correlate to a specific form of social and political organization (Gnecco 1996); also not all goldwork was used in shamanistic activities.

At least one major problem comes from the fact that researchers base their inferences about the meaning of gold objects on the cosmologies of contemporary indigenous societies. Pre-Columbian metallurgy clearly belongs in the domain of religious ideology, past (Hosler 1998; Falchetti 1997) and present (Reichel-Dolmatoff 1988; Isacsson 1993; Morales 1997). Notwithstanding their deep roots in ancient times, however, present indigenous cosmologies interplay with present conditions. Furthermore, objects attributed a "shamanistic" meaning are found among a wide variety of Pre-Columbian societies, ranging from Formative societies to the diverse and otherwise culturally distinct societies the Spaniards came upon in the sixteenth century in what today is Colombia. Thus, the presence of goldwork does not help us understand how or why social diversity and change took place.

Theoretical Background

Changes in goldwork are related to the development of social complexity, particularly the ways in which elites acquired and maintained power. Robert Drennan (1995b) has postulated some ideas about the directions of such changes for the San Agustín region. Accord-

ing to him (1995b: 106), the eight-hundred-year Regional Classic Period in the Upper Magdalena, which corresponds to the impressive goldwork tradition in the southwest, was characterized by the limited accumulation of personal wealth. In contrast, the institutionalization of leadership as well as economic differentiation developed until the advent of the Recent Period, around A.D. 900. This interpretation can be applied, with some modifications, to other archaeological zones in Colombia (Gnecco 1996; Langebaek 1996a; 1999).

The introduction of goldwork in Colombia corresponds to a period of chiefly development (Reichel-Dolmatoff 1988: 31), chiefdoms here being understood as regional polities that were extremely diverse in demographic, economic, and political terms (Drennan 1995b). Differences among chiefdoms assumed various forms, including the ways in which aspiring leaders competed. The institutionalization of control over resources provides valuable information about social evolution. Power in pristine chiefdoms was primarily a short-lived phenomenon: prestige was tied to a particular individual's political career, whereas the consolidation of internal and external leadership was essential in institutionalizing power, including hereditary power, and ascribing positions (Spencer 1994; Redmond 1998). Polities with institutionalized and intergenerational chiefdoms often had less individual but more restricted access to resources (Spencer 1994).

David Anderson (1994; see also Bender 1985), suggests that ideological power pervades social relations in pristine chiefdoms, whereas economic control is a key issue in chiefdoms with institutionalized power. Noninstitutionalized leadership should be based on ideology grounded in the community's beliefs. Often enough, ideology in pristine chiefdoms implies competition over sacralization by competing leaders, which in most cases assumes the form of mediation between the society and firmly accepted values about the supernatural (Spencer 1994: 34). In the case of Pre-Columbian chiefdoms, some forms of shamanism seem reasonable candidates as means of sustaining chiefly status, particularly among pristine chiefdoms. In societies with strong authority structures, less supernatural power may have been required to keep followers subordinate (Anderson 1994: 72). In chiefdoms with institutionalized power, avenues for maintaining power were many (Earle 1987). Often enough, resource or labor control was more important in chiefly competition than competition involving prestige alone (Drennan 1995b); such control often implies the presence of external functions related to the control of trade (Spencer 1994). In chiefdoms with institutionalized power, the consumption of specialist-produced goods tends to be high among the nonelite (Wattenmaker 1998: 17). This is not to say that ideological means of control did not exist in chiefdoms built on institutionalized power. Elites of all societies must rely on ideology to attain and maintain power (Service 1962; Helms 1981), and this was certainly the case for the sixteenth-century chiefdoms described by the Spaniards (Helms 1979; Langebaek 1996a). What is meant is that when economic and political institutions regulate access to power, ideological institutions are not the basis of it.

Gold ornaments were often part of the political economy of chiefdoms, and transformations in the way they were produced and consumed are indicative of changes in political organization. Early developments in goldwork, and the elaboration of unique (and frequently

impressive) adornments are consistent with a social context in which power was a highly personalized and noninstitutionalized affair and in which leaders completely lacked the mechanisms to make status inherited. In such a situation, power has to be constantly negotiated, and ideology, often one that recalls communal ideology, becomes an important avenue of chiefly competition (Anderson n.d.). The modifications in goldwork that have been taken as indicative of late, less-developed groups in Colombia are here interpreted as indicating social transformations from ideological means of control to more institutionalized political organizations in which power relied on the control of labor and resources, and at least in some cases, power was inherited.

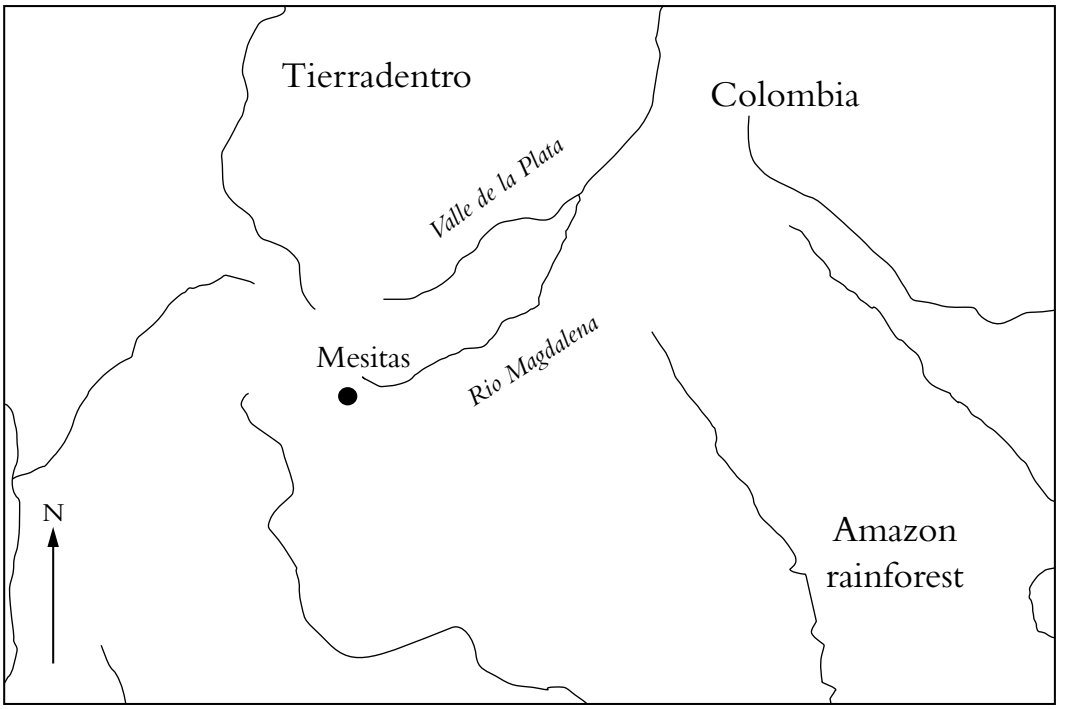
The way in which elites maintained power differed for all regions of Colombia during the sixteenth century and was probably more diverse before the arrival of the Spaniards. Again, by looking at the context in which goldwork has been found, it is possible to identify some of these differences. In a broad sense, leaders of sixteenth-century Colombian chiefdoms had limited means of maintaining power. Control over trade and the production of staples was not likely of importance. Control over a wide array of ecological niches was practiced at the household level, which made command over the production of staples difficult to manipulate (Langebaek 1996b). Instead, craft specialization and short-distance trade offered avenues of economic control. Contrary to what has been previously maintained, late chiefdoms actually stepped up external relations, at least in the economic sense—changes consistent with processes of population growth and increased institutionalized political leadership.

Methodological Considerations

The use of gold in four sequences of chiefdom development in Colombia will be considered in evaluating social changes and the way they relate to goldwork. The trajectories correspond to those of the Upper Magdalena and Calima regions, in southern Colombia, and the Eastern Highlands and the Sierra Nevada de Santa Marta, on the Caribbean coast (Map 2). These areas were selected because high-quality research has been carried out there including some of the better documented gold finds. Furthermore, the archaeological research in these regions allows comparative studies of key issues involved in chiefly development, such as settlement patterns and demography.

Some of the shortcomings of the archaeological information in all studies of Colombian goldwork apply here. Most objects have no archaeological context, the number of radiocarbon dates associated with goldwork is very small, and research on mortuary practices in Colombia is limited. As a result, the collections of gold frequently lack even the most basic information about provenience, chronology, or context. Despite such gaps in the archaeological record, it is still possible to suggest changes in the way it was used by looking at the archaeological context of the finds of Pre-Columbian gold. Here, "context" is not simply a reference to groups of artifacts found at the same locale or to stylistic similarities between objects from different places. Rather it also includes the social aspects of the societies that produced goldwork, that is, the archaeological and ethnohistorical data about settlement patterns, demography, and social organization.

Map 2 Archaeological Areas (map of Colombia by Robert Drennan, Dept. of Anthropology, University of Pittsburgh)



Map 3 The Upper Magdalena region.

The Upper Magdalena Region

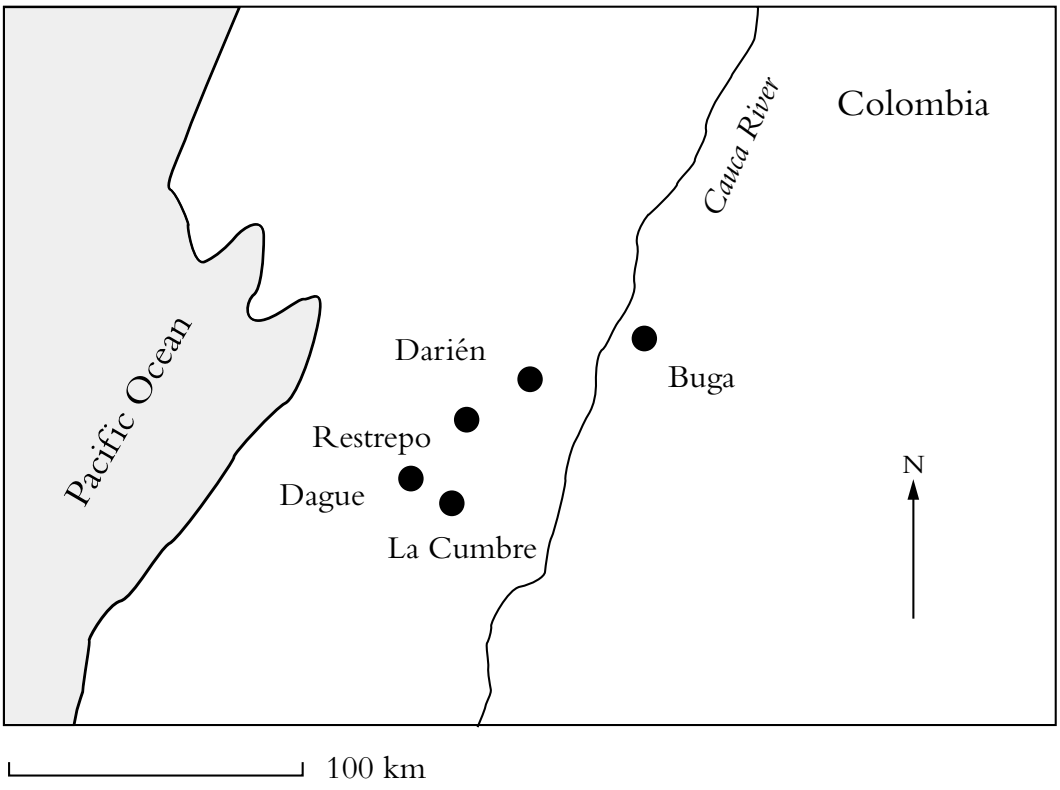
Luis Duque (1966) and, more recently, Hector Llanos (1994) and Drennan (1995b), have carried out the main body of archaeological research in the Upper Magdalena region, including at San Agustín and the Valle de la Plata (Map 3). For years, the study of tombs and statues, as well as the reconstruction of a regional chronology were of primary emphasis. Monumental tombs were in use in the Upper Magdalena region between 1 and 900 A.D., the Regional Classic period. The Late, or Recent, period followed (Drennan et al. 1991; Drennan 1995b). The Regional Classic has traditionally been interpreted as the society's apex, during which monumental tombs were constructed. It is believed that after 900 A.D., this community went through a period of crisis, when a group of shamans that controlled the territory was overthrown by small warring chiefdoms, probably invaders from the eastern lowlands, who lacked the ability to construct impressive funerary mounds and statuary (Llanos 1994: 116). San Agustín was likely the first region in Colombia where developments that preceded the Spanish conquest have been interpreted as the result of invasions or, more generally, some sort of decline. Recent archaeological research, however, suggests a different explanation (Drennan 1995b).

Duque (1966) and Duque and Julio Cesar Cubillos (1979) have investigated impressive Regional Classic mounds, with statues and stone slab tombs. Mortuary practices include clusters of burials in groups ranging from one barrow and half a dozen statues to ten barrows

and several dozen statues (Drennan 1995b: 89). Researchers associate such clusters with dense human occupation and domestic activities. In fact, the distribution of statues and barrows corresponds to concentrations of population at the regional level. The elaborate tombs at San Agustín are likely those of leaders. Such representation of leadership points to a society in which leadership was not highly institutionalized, but highly personal and based on status rivalries (Drennan 1995b: 94). Data recovered from Regional Classic households do not provide evidence of intensive craft specialization (Jaramillo 1996). Research at Mesitas, one of the sites with mounds and statuary, indicates that during the Regional Classic differences in agricultural productivity between settlements associated with mounds and those of the periphery were not significant. Also, although some households were involved in craft production, their centrality does not seem to result from those activities (V. González n.d.). The fairly elaborate tombs of the Upper Magdalena contain no evidence of offerings, which to Drennan suggests that the accumulation of wealth was not the basis for acquiring and maintaining leadership status. Instead, more "ideological" means of control were more likely. Additionally, the themes of the statuary, sometimes with lowland motifs, probably sanctified the social order and the role of the leaders.

Offerings in goldwork have been found in only a few tombs; the mounds are so conspicuous and have been sacked so many times that it is difficult to determine how important gold actually was. At any rate, most of the gold ornaments found in San Agustín are associated with funerary monuments and belong to the period when mounds were constructed (Duque 1966: 409–414). Some of the ornaments exhibit the same traits as the stone statues often found in association with the funerary mounds. Duque (1966: 407–408) reports a diadem found in tomb 19 of Mesita B that resembles those on statues. A necklace from the same burial includes a small metal representation of a bird similar to a statue found at the same mound. Another diadem from tomb 13 clearly resembles a statue found nearby in Mesita A (Duque 1966: 408). Also in Mesita A researchers found gold plates in a burial dated to 40 +/- 40 B.C. (Duque and Cubillos 1979: 25, 223). Duque also reports gold refuse and wire as well as evidence of a crucible near Mesita B indicative of a goldworkshop and dated 10 +/- 50 B.C., the beginning of the Regional Classic (Duque 1966: 409). A crucible was also found as an offering at tomb 2A, which is also related to Mesita B (Duque 1966: 409).

Following the Regional Classic, the construction of funerary monuments ceased. Few gold objects are reported found from this period. Furthermore, those that have been recovered are small *tumbaga* nose rings, frequently found not only in tombs but also in domestic contexts. Nonetheless, the notion of cultural decline is not consistent with the archaeological evidence. Regional population continued to grow after 900 A.D., albeit slightly, and while some large centers of the Regional Classic were abandoned, others emerged (Drennan et al. 1991: 314). Mortuary practices also changed. Impressive monuments were no longer built, but great numbers of pots began to be placed in tombs. This points to the declining importance of personal claims to legitimacy and the rise of institutionalized leadership (Drennan 1995b: 95). Other research in the Upper Magdalena region is consistent with this interpretation. Mary Taft's (1993) study of ceramic production suggests that during the Regional Classic competition between pottery networks increased and that there was little centralized



Map 4 Sites in the Calima region

control over production. In contrast, during the Recent Period, pottery production shows evidence of being centrally controlled and the existence of one local ceramic distribution network that was larger than any network of earlier periods.

Calima Region

The term *Calima* has been used to describe the archaeological region around the towns of Restrepo and Darién in the Cauca Valley. Research during the 1970s and 1980s defined three archaeological periods (Map 4). The first occupation, where pottery was found, dates to the first millennium B.C. and culminated around 1 A.D. More than thirty sites of this period, the Ilama, had been reported by 1988. Most of them include cemeteries consisting of clusters of two to eight burials and occasionally up to thirty (Bray, Herrera, and Cardale de Schrimpff 1988: 3). Nonetheless, information regarding Ilama burials remains scant (Bray, Herrera, and Cardale de Schrimpff 1988). Some gold ornaments have been found with Ilama pottery, but there is no reason yet to believe that goldwork in the Calima region is as old as the oldest Ilama ceramics. Thus far, the oldest dated goldwork found is a fragment of a trumpet dated 210 +/- 80 A.D. and associated with pottery from the next period, the Yotoco (Cardale de Schrimpff, Bray, and Herrera 1989a: 57).

Fig. 1 Ilama Pottery

Ilama burials are most frequently of the shallow shaft and chamber type, between 1.5 and 2.0 meters deep. Offerings usually consist of one or two pots, although sometimes there is no evidence of offerings at all (Salgado and Rodríguez 1989: 123–124). Reports of considerably larger burials do, however, exist. At Llano Grande, near Restrepo, two large burials—one 8 meters deep with a chamber 3 by 3 and 1.2 meters high and the other somewhat smaller—were found to contain a golden mask each (Cardale de Schrimpff, Bray, and Herrera 1989a: 63). In most cases, pottery vessels seem to have been the only grave goods (Fig. 1). At El Topacio, an Ilama cemetery consisted of six graves, all of them of the shallow shaft and chamber type. Four contained double-spout and bridge-handle pots in the shape of woodpeckers, a dove, and an armadillo (but no anthropomorphic figures) (Bray, Herrera, and Cardale de Schrimpff 1988: 6). Other grave goods from the Ilama period include pipes, probably associated with the consumption of narcotics, as well as a wide variety of zoomorphic and anthropomorphic representations in clay. Available data indicate that gold ornaments are associated with larger burials and that in some cases elite burials contained offerings not found elsewhere in the Ilama territory (Cardale de Schrimpff 1992: 57).

During the Yotoco Period, population growth and agricultural intensification are indicated (Bray 1992b). The swampy lands of El Dorado Valley were drained and used as maize fields, and a network of roads was built to connect the Middle Cauca with other regions in southern Colombia (Herrera, Cardale de Schrimpff, Bray 1982; Cardale de Schrimpff, 1996). Some evidence suggests that Yotoco was a continuation of the Ilama Period, inasmuch as archaeological sites, including cemeteries, often contain material from both periods (Cardale

Fig. 2 Yotoco goldwork

de Schrimpff 1992: 57), and there is some continuity in pottery and goldwork styles (Cardale de Schrimpff, Bray, and Herrera 1989b). Evidence also exists that points to social distinctions. Burials from the Yotoco Period resemble those of the Ilama Period, but the Yotoco goldwork is more impressive, and the status items are more grandiose. Spectacular diadems, ear spools, pectorals, and bracelets of hammered gold are reported (Fig. 2). Finely cast flasks and dippers associated with coca chewing have also been found (Bray 1992b). Yotoco pottery is well crafted and covered with a lustrous white slip and red painting with curvilinear designs. More important, it is clear that access to these items was limited to a small number of individuals. Most Yotoco burials contain one or two pots, and few are found with large quantities of rich gold adornments and fine examples of pottery.

Two characteristics of Yotoco Period burial offerings stand out. First, as has been reported for the Ilama Period, some burials are more elaborate than others, and it seems possible that some individual burials contained special ornaments not found elsewhere. Typological differences can be discerned in terms of the construction of burials at different cemeteries. At Hacienda Samaria, the four Yotoco burials investigated are unlike other burials of the same period from the Calima region (Salgado and Rodríguez 1989: 124). At La Primavera for example, a single grave contained more than twenty-one gold objects. Unlike other findings in the Calima territory, six of the pieces are figurines in a hieratic position, representing seated personages (Plazas 1983). This impressive Yotoco goldwork, and in general the items associated with the elite, is not of entirely local inspiration. The figurines from La Primavera resemble the statues and some of the gold figurines from San Agustín (Plazas 1983) (Fig. 3). In fact, Yotoco goldwork shares many iconographic traits of the statuary in the Upper Magdalena Valley (Pérez de Barradas 1954: 324). At La Badea (Dosquebradas, Quindio), archaeologists found an impressive burial with gold offerings including two anthropomorphic plaques, three tweezers, two rounded pectorals, an H-shaped diadem, and several necklaces made of green stone and quartz (Cardale de Schrimpff, Morales, and Osorio 1988). These findings recall those in other areas of the Colombian southwest. The tweezers are

Fig. 3 Yotoco goldwork similar to San Agustín statues

identical to some found in the Calima region from the Yotoco Period, as is also the case of the quartz beads. On the other hand, the H-shaped diadem is found in Calima, San Agustín, and Tierradentro iconography. The two anthropomorphic figures resemble findings in the Magdalena Valley (but are by no means identical to anything found there).

Sonso is the last archaeological period before the Spanish conquest of the Calima region. This period, dating from around the twelfth century to the sixteenth century probably represents one that includes similar developments in a large area of the Colombian southwest along the Cauca River (Rodríguez 1989; Bray 1989; 1992b). At the time of the Spanish conquest the region contained several distinct societies (Romoli 1974). In contrast to the goldwork and pottery of the Yotoco Period, Sonso pottery and goldwork are less diverse and lavish. Gold ornaments are rarely found in burials and those that are most often consist of tumbaga nose rings (Scott 1981: 22). Archaeologists have traditionally interpreted this change as evidence of decline. Having a less "brilliant" society, the people of the Sonso Period represent the arrival of invaders who replaced the Yotoco inhabitants (Cardale de Schrimpff, Bray, and Herrera 1989b; Gähwiler-Walder 1992: 127). Certain archaeological information, however, suggests that instead of decline, the Sonso Period represents a time when social stratifications existed but were expressed differently. For example, during this period large platforms more than 100 meters in length were built on top of hills, indicating a capacity for mobilizing labor. Although a transformation of the landscape for agriculture is known to have occurred during the Yotoco Period, nothing compares to the investment of

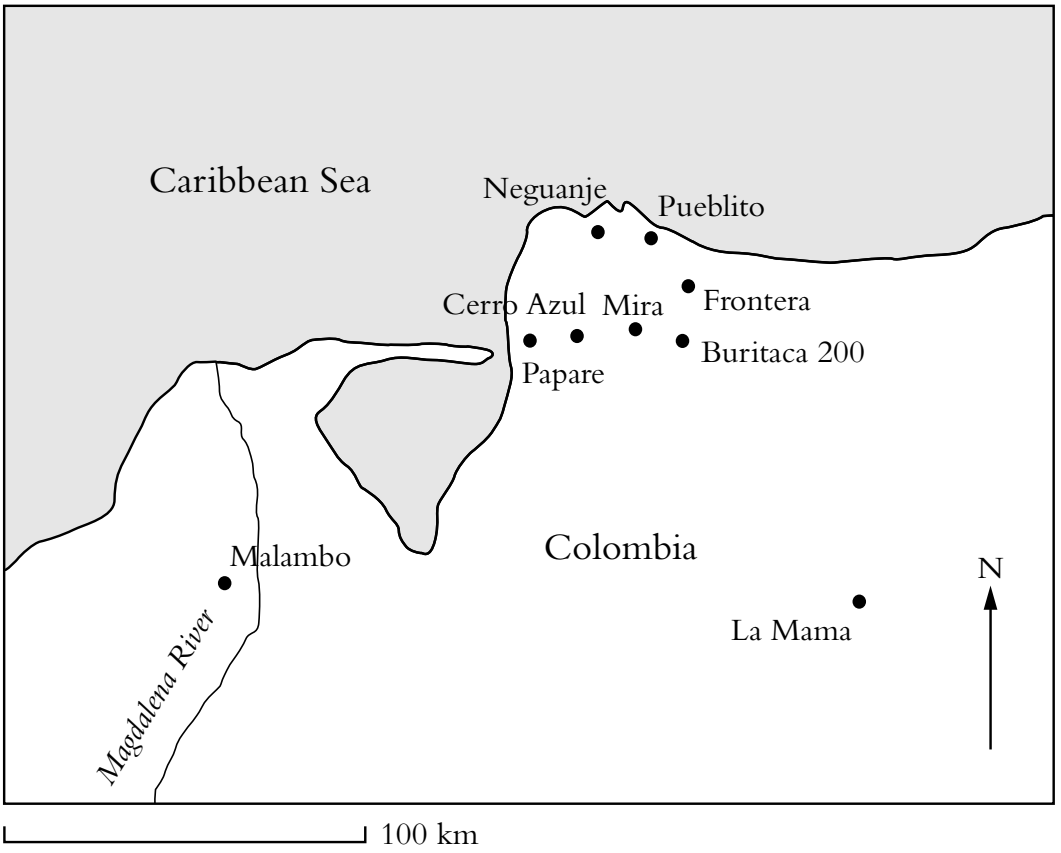
labor by the Sonso population in order to cultivate crops (Herrera 1992: 156). House structures are more numerous and varied than those of the Yotoco. Although regional demographic estimates are not available, the population was probably much larger than during previous periods. Sonso sites appear to be more numerous and larger, despite the fact that Sonso is the shortest of the Calima region archaeological periods (Salgado and Rodríguez 1989: 124; Gähwiler-Walder 1992: 137).

Most Sonso burials are of the shaft and chamber type, between 4 and 15 meters deep. There are, however, strong differences that seem to be regional in character. Shaft and chamber burials are reported in the Calima Valley (Caldas, Chávez, and Villamizar 1972: 27). Burials in wood sarcophagi appear to be more common around Darién (Gähwiler-Walder 1992: 138), while in Guabas large urns with secondary burials predominate (Gähwiler-Walder 1983; Rodríguez 1989: 74). In Buga, shaft and chamber burials between 5 and 10 meters in depth are found without urns (Rodríguez 1989: 82–83). Other burials display individual differences, such as varying depths, but one burial at La Rancho Grande in La Cumbre contains a carving of an anthropomorphic figure, a unique occurrence for the period (Gähwiler-Walder 1992: 141–142). Funerary furniture is considered "poor" in relation to previous periods. In addition to pottery, some burials include wooden spear throwers and *duhos* (stools). Burials of the wealthy and poor burials do not differ so much in terms of the quality of the objects, but in the quantity of the offerings. Funerary urns are indistinguishable from domestic pots and frequently contain the remains of more than one individual. Gold ornaments are often small tumbaga nose rings, and the iconography lacks exotic motifs. They are rare in burials, but frequently represented in pottery. The gold ornaments of wealthy and poor burials are often indistinguishable, as is the case with pottery, but again the quantities are different. In the cemetery at Guabas, archaeologists excavated fifteen tombs. Only two contained gold ornaments: one included thirteen metal objects, the other one tiny earring (Rodríguez 1985: 51). A Sonso burial at Darién contained a wooden coffin, a wooden spear thrower, parts of three darts, and six pots (Schuler-Schoming 1981). Other Sonso graves usually contained one single pot. In some cases, no chamber was associated with the burial, in which case it is normal not to find any kind of offering (Gähwiler-Walder 1992: 137).

In short, instead of representing a period of decline, the Sonso presents changes in the way goldwork was used. Rather than few impressive ornaments, large quantities of adornments were used by a large proportion of the population. This is consistent with evidence of a population larger than that of the previous periods, as well as a more institutionalized basis of power.

Sierra Nevada de Santa Marta

The Sierra Nevada de Santa Marta and a narrow ring of land on its northern and western slopes corresponds to what has been called the Tairona region (Map 5). The archaeology of chiefdoms in the Santa Marta region is little developed, although one of the best known sequences of social change on the Colombian north coast is documented there (see Bray, this volume). Unfortunately, uncontrolled excavations have provided the most infor-



Map 5 Sites in the Sierra Nevada de Santa Marta

mation about its goldwork (Mason 1939). Other research has concentrated on refuse deposits, and systematic regional surveys have not been carried out in the region, making it difficult to infer demographic patterns. Available information about the emergence of complex societies in the region, however, provides examples of how gold objects were used at different stages of chiefdom evolution.

The initial settlement by agriculturists in the region relates to the Lower Magdalena Malambo occupation, before the first century A.D. (Langebaek 1987a). Evidence of this first occupation is poor at best, and there is no information about goldwork from this period. The first evidence of goldwork surfaces in the Neguanje Period, which dates from about 300 to 800 A.D. (Fig. 4), and goldwork appears to continue through the last Pre-Columbian period, known as the Tairona. According to Henning Bischof (1969), this period dates from 800 to 1500 A.D.

During the Neguanje Period, the population concentrated along the coastal region, with a lower density in the mountains. Nonetheless, overall population density, even on the coast, seems to have been low. In terms of social organization, little is known, but an impressive burial in Neguanje implies some degree of social differentiation. One of the most impressive burials reported by John Alden Mason (1931: 32–36) belongs to the Neguanje Period

Fig. 4 Neguanje goldwork.

and was found in a mound 14 by 15 meters in diameter and bounded by a 30-centimeter wall made of piled stones. A stone-lined grave was located in the center of the mound, which Mason considered "the most interesting and unique individual site discovered" (1931: 32). The burial offered numerous adornments, including twenty-one pots, among them barrel-shaped cups, fine pot vases, bowls, a black pottery bowl with an annular base and animal heads in relief, and one olla. Some pots held beads. Some were painted; all were found within the burial. Local farmers had recovered other findings from the mound, including seven pots and "several other vessels with gold ornaments and beads" (Mason 1931: 35). In total, the mound yielded eight thousand stone beads—nearly half of the 16,247 collected by Mason's expedition (Mason 1939: 213)—as well as a number of gold ornaments, all of which are "of exceptional quality and many of types not encountered elsewhere" (Mason 1931: 36). Among them are winged ornaments and human figurines of greenstone of a kind not found elsewhere and most of the stone pendants (Mason 1936: 185, 187, 189). Other objects found exclusively in the Neguanje grave include large tubular beads, ornamental plaques of thin gold, what is described as the "only gold figurine . . . the finest metal object found," as well as most of the rings (Mason 1936: 246, 252–254, 265).

One of the striking features of these findings of the Neguanje burial's objects is that they are unique and in many cases resemble "foreign" materials. The pots have a white slip and elaborate designs uncommon in the Neguanje Period materials found in domestic contexts in Neguanje and elsewhere. They are also distinct from the Neguanje painted sherds found in domestic refuse (Langebaek 1987a). As noted by Bischof (1968) and Ana María Falchetti (1987: 9), this goldwork shares features with the so-called Classic Quimbaya style (Fig. 4); the stone pendants are similar to the jade bat-wing pendants popular in Central America, and the pottery has been compared with that of the La Loma and El Horno

Periods from the Guajira Peninsula (Bischof 1968). The Neguanje materials, however, were not imported, but locally produced, and they are by no means identical to Quimbaya goldwork, Lower Central American stonework, or Guajiran pottery (Langebaek 1987a).

After 1000 A.D. population growth and agricultural intensification are documented. At the time of the Spanish Conquest, population density in the Sierra Nevada and on the coast appears to have been high (Reichel-Dolmatoff 1951; Cadavid and Fernanda Herrera 1985). Most radiocarbon dates from Sierra Nevada fall within the Late Period. Dates from Buritaca 200 are 1000 +/- 70 A. D. (Oyuela 1986: 28), 1090 +/- 110 A. D. (Cadavid 1986: 23), and 1385 +/- 50 A. D. (Groot 1980). Carbon-14 dates from Alto de Mira (1350 +/- 60 and 1400 +/- 70 A. D., Ardila 1986: 38) and Frontera (terrace 22b dated 1160 +/- 80 A. D., Cardoso n.d.: 139) are also late. The only relatively early date (660 +/- 90 A.D.) in the Sierra Nevada comes from this place (terrace 18), located just 500 meters above sea level (Cardoso n.d.: 113). Furthermore, abundant evidence exists of public works, including a network of roads that connected the main settlements (Serje 1984), house platforms, and agricultural drainages and terraces (Cadavid and Fernanda Herrera 1985; Groot 1985).

The Tairona burials excavated by Mason (1931) suggest gold ornaments were more widely distributed among the population during this period than during the Neguanje Period. Matthew Looper (1996: 121–123) has suggested that certain ornaments were used by chiefs and others by *naomas*, or priests. Nonetheless ethnohistorical documents make clear that all segments of the population wore gold ornaments. Spanish accounts describe the Tairona people as wearing gold ornaments for ceremonial occasions and military encounters; no mentions are made that such items were restricted to the elite (Reichel-Dolmatoff 1951: 83–85). Aguado explicitly describes how men and women had access to gold ornaments; women used the same gold adornments as men—earrings, nose rings, and pectorals—in addition to bracelets, beads, breast covers, and torques (Reichel-Dolmatoff 1951: 84). Furthermore, small nose rings are frequently represented in Tairona pottery (Mason 1939) (Fig. 5); fine stone beads were also used by the populace, as is suggested by the fact that they are commonly found in domestic refuse in house platforms (Mason 1936; Groot 1985; Cardoso n.d.).

Gold is not rare enough in Tairona burials to propose that it was exclusively used by the elite. Few gold ornaments have been uncovered in archaeological excavations, but when found they are in burial and domestic contexts, and, unlike finds from the Naguanje Period, they are not exclusively from impressive burials. Gold ornaments were found at burials in Gairaca, Los Naranjos, Pueblito, and Buritaca 200. At Buritaca 200, a tumbaga nose ring and two pendants in the shape of anchors accompanied a burial in a house platform dated 1385 +/- 50 A.D. (Groot 1985: 73). A large offering jar in Jirocasaca also contained tumbaga ornaments (Reichel-Dolmatoff 1958: 73). Others are reported to come from a looted house platform in Pueblito (Reichel-Dolmatoff 1958: 73). A small nose ring is also reported from a grave in La Mesa (Reichel-Dolmatoff 1958: 78). In Frontera, beads and stone adornments were found in burials, but most frequently as offerings in caches in house platforms (Cardoso n.d.: 163). In Buritaca 200, stone beads were found in burials (Castaño Uribe n.d.: 126) and in small platforms, on the side of paths, and in greater quantities in larger platforms (Castaño Uribe n.d.: 111).

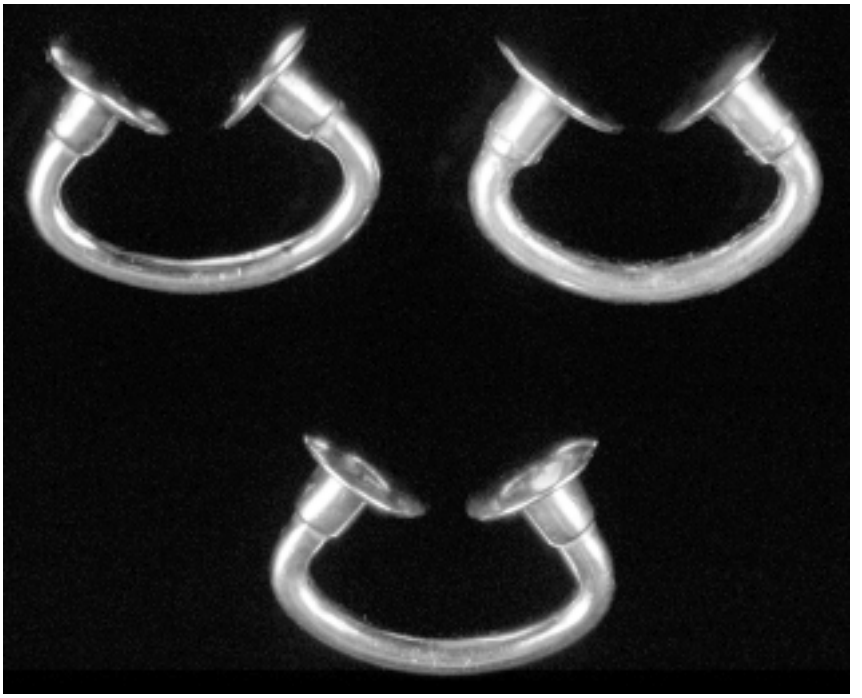
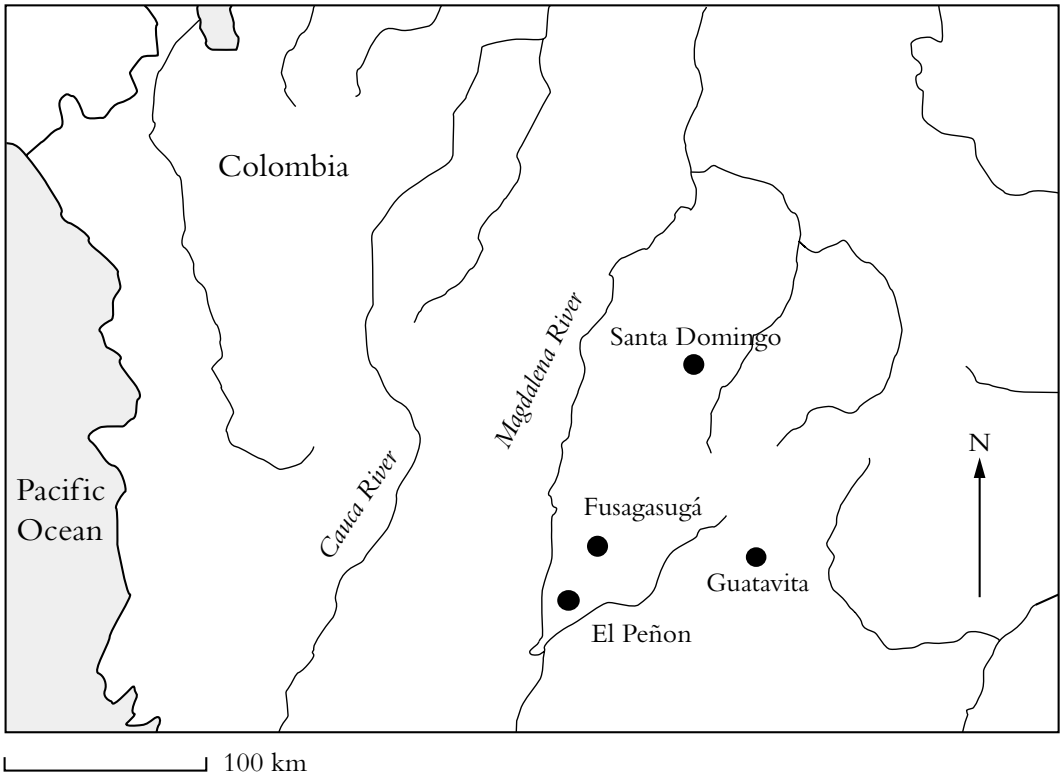


Fig. 5 Tairona nose rings

The number of goods worn in life and left in burials mark social differences, as does the use of certain kinds of adornments. According to Aguado, sixteenth-century Tairona women used as many adornments as men were able to provide them (Reichel-Dolmatoff 1951: 84). At any rate, it seems that burials of the kind reported by Mason in Neguanje are rare or did not exist in later periods. None of the Tairona Period burials described by Mason includes such a large number of offerings. Many contain a few objects of gold, shell, bone, or pottery. Others hold greater quantities of similar goods (Mason 1931).

A striking feature of Tairona Period pottery found in burials is that it belongs to the same class of pottery found in domestic contexts (Cardoso n.d.: 101). In Frontera, some large structures contain higher amounts of stone beads and adornments, but they are not restricted to a few terraces (Cardoso n.d.: 154). The iconography represented in pottery or gold is basically of local inspiration in terms of traits and manufacture. Tairona gold items, contrary to the objects excavated in the Neguanje burial, are not inspired by foreign motifs but present a wide variety of local fauna or mythical beings of symbolic importance (Reichel-Dolmatoff 1988; Legast 1987; Echavarría 1994; Looper 1996). In other words, Tairona elite maintained their status using completely different strategies. It is possible that some goods were of exclusive use by part of the elite, including monolithic axes, batons, some large gold ornaments, and stone winged pendants, but many of them did not find their way into elite burials but were instead handed down from generation to generation (Zuidema 1993), as described among the Kogi *mamas* today (Mason n.d.: 167, 176). Ethnohistorical and archaeological information also report the existence of villages specialized in the production



Map 6 Distribution of early Muisca goldwork.

of great amounts of goods. Spanish documents mention that the production of pottery was particularly common in Bonda, near Santa Marta (AGI Santa Fe 50), whereas the production of gold ornaments was carried out in Bondigua (Reichel-Dolmatoff 1951: 86). Furthermore, Gerardo Reichel-Dolmatoff (1986: 188) reports a workshop of stone bead production at Cerro Azul, on the western slopes of the Sierra Nevada, associated with Late Tairona pottery. All these sites suggest mass production for a large number of consumers.

As is the case with the Recent Period of the Upper Magdalena region, and the Sonso Period in Calima, the Late Tairona Period includes evidence of increasing population and craft specialization. The elites in the Santa Marta region probably relied more on the production of crafts than in displaying a few exclusive gold ornaments inspired by foerign motifs.

Eastern Highlands

The Muisca of the Eastern Highlands were described by the Spaniards as one of the most complex societies in northern South America (Map 6). The Herrera Period, defined by Marianne Cardale de Schrimpff (1987) and dating from 400 B.C. to 800 A.D. (Langebaek 1995), corresponds to the introduction of pottery and agriculture to the Eastern Highlands. The Early Muisca (800–1000 A.D.) and the Late Muisca (1000–1600 A.D.) Periods follow the

Fig. 6 El Infiernito, an early Muisca site, Eastern Highlands

Herrera. During the Herrera in the Valle de Fúquene, where a systematic regional survey was carried out (Langebaek 1995), evidence was found of a modest population that had settled in small villages near the region's most fertile soils. The Early Muisca changes in the archaeological record are indicative of an increasing social complexity, characterized by population growth and the introduction of a wide variety of pottery forms, some of which are probably related to an increase in feasting. The Fúquene survey suggests that most of the Early Muisca population did not live close to prime agricultural land. Rather, settlement patterns indicate social competition and probably warfare. Available radiocarbon dates are consistent with the idea that mummification, long-distance trade in seashells, and goldwork were introduced during the Early Muisca. It has also been suggested that this period brought the construction of El Infiernito, an enclosure surrounded by impressive stone arrangements, perhaps the most impressive pre-Hispanic construction in the Eastern Highlands (Fig. 6). Additionally, increased political centralization is reported for the Late Muisca Period.

Archaeological information suggests differences between strategies to acquire and maintain status during the Early and Late Muisca. During the Late Muisca there was considerable population growth, as well as evidence of interregional trade in pottery, which is not reported for the Early Muisca. Patterns of conspicuous competition developed during the Early Muisca, but control over prime agricultural land and labor had not been established. Conversely, large Late Muisca villages, the seats of chiefly power, were located in the immediacy of prime agricultural lands by the time of the Spanish Conquest. Agricultural terraces and earthen mounds for farming are reported for this period (Broadbent 1968). Also, ar-

chaeological information documents the existence of locales specialized in the production of pottery (Falchetti 1975) and spindle whorls (O'Neal n.d.). According to the Spaniards, the Muisca measured the status of their leaders in terms of their ability to attract people to live in such villages. Ethnohistorical evidence suggests that Muisca leaders mobilized labor to construct impressive wooden palisades and to work their fields, accumulating surplus from the population under their control. Part of the surplus went toward retaining specialists, including goldsmiths, weavers, and women who produced *chicha* for the populace. Succession to high office was inherited through matrilineal lines.

The earliest dates associated with goldwork in the Eastern Highlands are 620 +/- 100 A.D. (Mielke and Long 1969: 183), 645 +/- 95 A.D. (Plazas 1975: 53; Reichel-Dolmatoff 1986: 178), 800 +/- 60 A.D. (Falchetti 1989: 8), 860 +/- 100 A.D. (Mielke and Long 1969: 173), and 960 +/- A.D. (Reichel-Dolmatoff 1986: 178). In some cases, the gold ornaments associated with C-14 dates have not been described in detail, and in other instances context is lacking. The two earliest dates, one from a burial in Santo Domingo and the other from Guatavita, were obtained from the charcoal cores of nose rings that are unlike any other finds in the Eastern Highlands, as Muisca nose rings are usually flat and lack any kind of core. Other probable Early Muisca goldwork is reported from Fusagasugá and El Salitre (El Peñon, Cundinamarca). Those from Fusagasugá include an anthropomorphic figurine, three bird-shaped figurines, and one figurine of an animal with a raised tail (Fig. 7). The find from El Salitre is an anthropomorphic pendant (Langebaek 1990a: 205, Fig. 1). All these ornaments are similar, although by no means identical, to findings related to the Classic Quimbaya style in the Middle Cauca, Antioquia, and the Magdalena Valley (Castaño Uribe 1988).

Late Muisca goldwork is characteristic of styles in northern South America (Museo del Oro 1974: 28). Despite the fact that the Muisca lacked gold placers, active metallurgy is described from the time of the Spanish Conquest. The most well-known figurines are the *tunjos*, flat votive objects made of gold or copper, but more frequently of tumbaga that depict figures of warriors with trophy heads, weapons, miniature pots, animals, and as coca chewers (Fig. 8). More frequently, goldwork did not find its way into burials. Tunjos are usually found as offerings in caves, holes, and the refuse left at house platforms (L. González n.d.). Sixteenth-century documents confirm that access to tunjos was not restricted to elites. According to the Spaniards, common Muisca had access to metal tunjos, and they were specially made as offerings for a large proportion of the population.

Besides the tunjos, flat nose rings, pectorals, and other adornments have also been found. Some ethnohistorical evidence suggests that the use of these gold adornments was limited to the elite (Ramos 1972: 298; Cey 1995: 119). Documents indicate that leaders amassed great amounts of gold and tumbaga as personal wealth and handed it down from generation to generation; this was the case concerning gold *tejuelos*, several meters of necklaces and rattles passed down by the chief of Guasca to his successor (AGN Vis Cund 10 f 708tr). Spanish accounts also describe large deposits filled with gold, stone beads, textiles, and seashells that were the property of chiefs. Commoners' gold offerings were usually not collected. Instead they were expediently thrown into lakes, caves, and other places of difficult access (Simón 1983 [1625]: 377).

Fig. 7 Early Muisca goldwork

Fig. 8 Late Muisca goldwork (tunjo)

Some of the ethnohistoric information details part of the economic process of producing gold objects. The Spanish accounts describe villages that specialized in the production of gold ornaments, as well as at least two kinds of specialists in gold production (Langebaek 1987b). Some producers specialized in votive figurines (*tunjos o santillos*), and they apparently worked from special centers, such as Guatavita. Others specialized in the mass production of gold ornaments, with the help of stone molds, and probably lived in villages where the Muisca population settled (Langebaek 1987b: 49). In some cases, it is reported that Muisca leaders had specialists in their service to produce gold ornaments (Cortés 1960; Rojas 1965).

Late Muisca chiefdoms, as well as those found by the Spaniards in the Upper Magdalena, Calima, and Santa Marta regions, did not emphasize the construction of impressive monuments. Nonetheless, great quantities of gold ornaments and tunjos were produced. Gold was probably used more extensively than during previous periods, by the elite and by commoners. The processes of population growth and increasing political centralization are well documented. Members of the elite were able to accumulate and inherit objects of high status, and they controlled labor and such goods as textiles and frequently had specialists under their control.

Conclusion

Available information helps to define both differences and similarities between chiefdoms in pre-Hispanic Colombia. Trajectories of social change in pre-Hispanic Colombia are not well dated, but it seems reasonable to argue that there are chronological differences in the development of goldwork in its various regions and in early chiefdoms as well. In the four regions discussed here, the first evidence of social differentiation is reported early in the sequence. Population densities were initially low, and goldwork appeared long after social differences developed. Monumental manifestations of chiefdoms are found from different peiords: around 0 A.D. in the Upper Magdalena region, somewhat earlier in the Calima region, from around 400 A.D. to 1000 A.D. in the Sierra Nevada de Santa Marta, and from 800 to 1000 A.D. in the Eastern Highlands. Conspicuous evidence of monumentality varies—mounds and statuary in the Upper Magdalena, mounds and impressive ceramics and adornments in Neguanje, El Infiernito in the Eastern Highlands, impressive goldwork and ceramics in the Calima region—but early chiefdoms are associated in all four archaeological areas with impressive investments in mortuary practices that developed in different periods.

All the early chiefdoms described here reveal evidence of highly individualistic emergent elites. Their burial objects are frequently unlike others excavated in the same region. Burial goods from Neguanje, Ilama and Yotoco, and San Agustín are not only different from materials found in domestic contexts, but are also different from those found at other elite burials. Frequently, elite objects are inspired by foreign iconography. The San Agustín statuary incorporated lowland representations. In Calima, the goldwork was similar to Upper Magdalena statuary. Neguanje offerings have been compared to Lower Central American goods, and Early Muisca goldwork is similar to Quimbaya goldwork. Nonetheless, long-distance trade of luxury items during the periods of chiefly development seems to have been limited. Calima goldwork imitated the statuary of San Agustín—or, due to the lack of confidence in chronological sequences, Agustinian statues copied Calima goldwork—but elite objects from San Agustín are yet to be found in the Calima region. Likewise, the La Badea burial in Dosquebradas includes gold ornaments similar to those found in the Calima region during the Yotoco Period, but are not identical. The Neguanje burial includes goldwork similar to what has been called Classic Quimbaya, as well as pottery that has been compared to that of La Guajira and stone adornments comparable to those of Lower Central America. These goods are not, however, identical to anything found in other burials, and they seem to have been locally crafted. In the Muisca territory, early goldwork was probably inspired by the so-called Classic Quimbaya style but was locally produced. This is not to argue against the fact that during the early period of chiefly emergence some objects were traded, sometimes over long distances, for this was certainly the case. It merely means that copy and imitation were practiced more often than was trade. Whether this indicates a common cultural identity is unknown. What is clear, however, is that local conditions are important in explaining when and how goldwork was adopted.

The role that imitating crafts from abroad played in early chiefdoms was probably related to the desire of leaders to act as intermediaries with the outside world, as Mary Helms (1971) has proposed. If Reichel-Dolmatoff (1988) is right about the iconography of many Colombian gold objects, it is likely that shamanistic icons played important roles in leaders' legitimacy. The fact that most of the early goldwork in all four regions was locally crafted contradicts the idea that emerging elites concentrated on long distance trade. Instead, goldwork would have functioned in highly competitive systems within the context of primarily local changes in demography, settlement patterns, and economic conditions. As most elite objects were locally crafted, and undoubtedly of extraordinarily elaborate craftsmanship, it seems reasonable to assume that the production of elite objects was of importance to early chiefs, whether they or attached craftsmen were in charge of such production. Thus far, the direct evidence of such craftsmanship is scant. Besides isolated objects, like an Ilama metallurgy tool kit and the fact that an early workshop for goldworking was found in San Agustín associated with a mound and an elite burial, no other workshops have been found. At any rate, production of gold adornments seems to have been limited precisely because they were elite objects, limited to a few individuals. The only reason early craftsmen had a "market" was because prominent leaders passed away, and their goods left with them.

Contrasts between early chiefdoms and late chiefdoms is evident in all four regions. Materials once associated with elites, (for example, gold or luxurious stones) became used extensively by the populace. Gold adornments usually did not find their way into burials because they were passed to the next generation. In the case of the Muisca and Tairona, the use of gold was not limited to the elite. That nose rings are so frequently represented in Sonso pottery suggests that this might have been the case in the Calima region as well. This would be consistent with the assumption of increasing craft specialization. Although some objects remained attainable only by the elite, a characteristic of late chiefdoms in the Sierra Nevada de Santa Marta, the Eastern Highlands, Calima, and the Upper Magdalena was that production became specialized and oriented toward supplying a greater number of consumers. Late Muisca, Tairona, and Calima pottery became so standardized as to suggest the existence of centers dedicated to their production. In Muisca territory, sites dedicated to the production of great quantities of pots, gold offerings, and spindle whorls have been reported. In the Valle de la Plata region, it is only during the last pre-Columbian period that a distribution network for a pottery-producing center prevailed. This was probably not the case with ceramics. In the Sierra Nevada de Santa Marta, ethnohistorical information documents the existence of villages specializing in the production of stone adornments or goldwork.

Another common trait among late chiefdoms is that most of the labor force was not used for the construction of monuments, but rather for the construction of earthworks for the production of food. Terraces for agriculture and irrigation and drainage systems were common in the Sierra Nevada. In Calima, the landscape was transformed as never before by agricultural practices. Prior to the arrival of Spaniards in the Eastern Highlands, mounds and terraces were also related to agriculture. Archaeological surveys of the Upper Magdalena and the Muisca territory suggest that settlement was not oriented toward the exploitation of the

best soil during the period of early chiefdom emergence. Conversely, in the case of the Muisca, it seems that in the sixteenth century large villages and seats of chiefly power were located on some of the best soils in the region.

There are few documents providing detailed descriptions of the production of ornaments in northern South America, but two reveal that either leaders themselves were goldworkers, as was the case on the Magdalena River (Martínez 1989), or the job belonged to specialists attached to leaders' service, as is the case of the Muisca. In this territory it seems that the position of goldsmith was inherited (Langebaek 1996a: 130). In all the regions in later periods the production of gold objects, and probably of other goods as well, was directed toward supplying a large portion of the population with adornments, as was the case among the Tairona, or with offerings, as reported among the Muisca. In all cases, it seems that a greater demand relates to processes of population growth (clearly documented in the cases of the Upper Magdalena, the Late Muisca, and most likely among the Late Tairona and Sonso populations). Available research does not allow comparisons between the production of late chiefdom metal ornaments and that of earlier chiefdoms. The often small, mostly tumbaga ornaments that constituted a large proportion of production in late chiefdoms are not very attractive to museums and are therefore often disregarded. Given that access to such goods was in most cases open to the populace, it seems safe to assume that production was considerable.

Another feature of later Colombian chiefdoms was an increase in external relations that were at least partially controlled by the elites. The traditional view is that early elites depended on long-distance exchange networks and that they collapsed for some reason before the Spanish Conquest. Early goldwork, however, was not only locally produced in the areas discussed, but in many cases it was highly individualistic, and probably made for specific individuals. Thus it is difficult to speculate about extensive trade networks and even less about their demise. In contrast, sixteenth-century sources detail active trade routes (Langebaek 1987b; 1996a; Kurella 1994), including the long-distance exchange of luxuries as well as the exchange of raw materials and crafts (Szaszdi 1983; Boomert 1987; Whitehead 1990). Goods such as seashells, stone beads, and some gold ornaments from the coast found their way to the Eastern Highlands. Such crafts as pottery circulated across ethnic frontiers, but this usually involved short distances within ethnic boundaries. It is difficult to quantify changes in the intensity of regional exchanges, but the only documented case, that of the Eastern Highlands, clearly indicates that the production and exchange of pottery stepped up not long before the Spanish Conquest.

The exchange of cotton and gold from the lowlands was crucial for Muisca chiefs' maintenance of specialists attached to their service for producing the goods the chiefs traded or gave away (Langebaek 1987b). Documents that discuss trade are detailed in describing the kinds of objects involved but usually provide little information about their social contexts. The bulk of information at hand suggests that trade was a highly political affair. In the case of the Muisca, markets were centralized and supervised by the political elite. Commoners attended to trade and reportedly "admired" the political leader who served as host (Langebaek 1987b). Santiago Giraldo (2000) has been able to demonstrate that trade among the Tairona,

at least with the Europeans, was controlled by the elite. Still, our knowledge about trade in goldwork at the time of the Spanish Conquest is rather limited.

I would like to suggest some ramifications of the hypotheses advanced here that are, in my view, promising avenues for research. Stylistic comparisons and interpretation based on ideology will continue to make exciting contributions to Pre-Columbian archaeology. Nonetheless, such studies will have to be coupled with more emphasis on social, political, and economic issues. Objects of gold were not only aesthetic: they were also produced and politically manipulated, that is, consumed within the context of a chiefdom's political economy. They involve technological and ideological aspects that are not only fascinating in themselves, but that also relate to ways in which societies were politically and economically organized. A closer look at these aspects, to which archaeological research can contribute enormously, will be another way of increasing knowledge about how societies changed in the past.

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Creation Imagery in the Goldwork of Costa Rica, Panama, and Colombia

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This somewhat unorthodox study is the result of two intersecting curiosities. First, is the presence among some gold pendants of southern Costa Rica and western Panama of anatomical features that look like female breasts on figures that also have a male sex organ. Equally intriguing is the paucity of notice of these features in the literature, even by pioneering observers, most of whom were men. If these features were meant to be seen as female breasts, why are they on figures with male organs, and why did earlier observers not remark on this? If they are not breasts, what are they? Second, is the impact of *Maya Cosmos* (Freidel, Schele, and Parker 1993), and the encouragement that this reconstructed Maya creation narrative gave to inquiries about creation lore in other Mesoamerican traditions, especially among the Formative Olmec. Among these inquiries is the question of whether images existed of primeval creation in the Intermediate Area that were comparable to those postulated for the Maya and the Olmec, and whether there were any narrative settings.[1]

These two threads come together thus: Were the sexually anomalous (or composite, or hermaphroditic) gold figures related to creation narratives of the Intermediate Area and comparable, for example, to the various representations of mother-father figures and aged creator couples in Mesoamerica?[2] These "men with breasts" or "women with penises" are not the only anomalous figures in Intermediate Area goldwork. There are also large gold

[1] I continue to use the term *Intermediate Area* to designate the ancient civilizations between Mesoamerica in the north and the Central Andes and the Amazon in the south. I acknowledge the value of having a shorter name for this area, such as the *Chibchan Area*, proposed by John Hoopes and Oscar Fonseca Zamora (in this volume), but am not yet convinced that this is a better term because of the number of non-Chibchan-speaking peoples in the southern part of the area. In some respects, the entire area, whatever we call it, might better be regarded as epi-Andean and Amazonian.

[2] There is no Freudian notion of a man with breasts, but there is one of the phallic woman, or phallic mother, centered on the woman's preservation or envy of the phallus (Laplanche and Pontalis 1974). Freud regarded the mother's breast as a more potent symbol than the vagina, because of the infantile attachment to the nurturing breast. Hermaphroditic images are rare in Pre-Columbian art. David Freidel (1996: fig. 5) has identified a possible Middle Formative Mesoamerican, "Olmec"-style figure as a "mother-father" creator having a vagina with a penis within, but no breasts. The much later Mexican deity Ometeotl, "Lord Two," apparently was not represented as a single figure, but as a primordial creator couple. Aged creator couples are common in western Mexico as well. Figures having a phallus and prominent breasts may be found only in the Intermediate Area.

pectorals with multiple mammiform imagery (again, rarely identified explicitly in spite of there being little evident iconographic ambiguity in the wearing of multiple breast forms over one's chest). Also troubling is an iconographic type from Colombia, in gold and shell pectorals mostly, of displayed males in the so-called hocker, or parturition, pose. Many cast figure pendants, including those with female breasts and male organs, depict serpentine or crocodilian heads or masks rendered emerging from the human figures' bodies.

The visual arts are often the most complex surviving material elements of ancient ideologies, cosmologies, and rituals, but it is not clear how or even whether one can elucidate the nonmaterial elements of these ideologies—the narratives of myth and ritual, the unspoken iconographies conveyed through image, ornament, dress, and dance. Are the figures with female breasts and penises literal renditions of a hermaphroditic father-mother creator or perhaps a male appropriation of the symbol of a woman's nurturing breasts?[3]

The Austro-Hungarian–Colombian anthropologist Gerardo Reichel-Dolmatoff, in one of his most synthetic accounts of the symbolic thought of indigenous South Americans, suggests that self-adornment, a social and aesthetic category to which nearly everything discussed in this essay belongs, invariably has connotations of sexuality (1981: 22–23). He describes the rather modest metal ornaments of the Tukano of the Colombian northwest Amazon as being richer symbolically than materially. He and his informants go on to elucidate a complex body of thought in which alloy, shape, color, and odor underwrite a mnemonic and rhetorical discourse of insemination, reproduction, and fertility, in other words, a living narrative of creation imagery.

Crocodilian and Serpentine Emanations and Myths of Parturient Men

Numerous gold and *tumbaga* figure ornaments from the goldworking provinces of Diquís in Costa Rica and Chiriquí and Veraguas in Panama portray human figures with male genitalia and with serpentine or crocodilian masks or heads emerging from certain parts of their bodies, especially the legs, waist, and ears (or the head generally) (Figs. 1, 2). Particularly interesting are the figures with a penis and testicles in which one also finds serpentine or crocodilian emanations from the legs in addition to ligatures or constricting bands on the same limbs. In the Isthmian region of the Costa Rica–Panama frontier, where the modern border approximately marks the biological boundary between North and South America, these figures often have breasts or nipples that are prominent enough to construe them as female.[4] Other serpentine or crocodilian heads and masks emanate from the waist or from a belt or from the hair, features of iconography common in the goldwork of the central prov-

[3] The depiction of both primary and secondary sexual characteristics in Pre-Columbian art is typically schematic rather than exact. In depictions of women in sculptural media, the nipples are often more prominent than the breasts proper. I based my identification of figures as having both phallus and female breasts on the relative prominence of the nipples. Additionally, it is not uncommon in Mesoamerican art that portrayals of women depict their breasts seemingly dislocated toward their armpits, a configuration observed in such Mesoamerican areas as Veracruz and western Mexico.

[4] See, for starters, the entries "Quetzalcoatl" and "serpent" in Mary Miller and Karl Taube (1993: 141–142, 148–151).

Fig. 1 Framed gold figure pendant, skeletal bat-headed male with crocodilian emanations, spirals, and ligatures. Reportedly from El Coquito, southern Pacific Costa Rica. Dumbarton Oaks, Washington, D.C.

Fig. 2 Framed gold figure pendant, male with crocodilian and spiral emanations and ligatures. Reportedly from the Diquís Delta, southern Pacific Costa Rica. Dumbarton Oaks, Washington, D.C.

inces of Panama and of considerable antiquity in Peru. The "snaky hair" obviously substitutes for the ubiquitous and ritually important feather headdress commonly depicted in the imagery of the Intermediate Area and so well documented ethnographically in the northwestern Amazonian area (Figs. 3, 4). Indeed, there are reasons to believe that one dimension of such emanations is that they reference feather ornaments and their ritual meanings. The interchangeability of snakes and feathers of course recalls the mythic elaboration of the feathered Mesoamerican serpent known as Quetzalcóatl among the Mexica and as Kukulcán among the Maya.[5]

[5] See Ruben Reina and Kenneth Kensinger (1991) for an excellent introduction to the anthropology and art history of featherworking in South America, where it has survived into contemporary times. In that volume, Kay Candler, sensitive to the "image play" (as in word play) of native South American body ornamentation, offers numerous instances of the symbolic equivalence and substitution of hair, snakes, and feathers.

Fig. 3 Gold figure pendant, "eagle" impersonator with crocodilian or serpentine emanations as snaky hair or feather headdress. Reportedly from the Diquís Delta, southern Pacific Costa Rica. Dumbarton Oaks, Washington, D.C.

Fig. 4 Gold figure pendant, male with breasts (?) in armpits and serpentine emanations as snaky hair or feather headdress. Veraguas region, Panama. Dumbarton Oaks, Washington, D.C.

In Pre-Columbian studies, the classic interpretation of the snaky hair problem is John H. Rowe's appeal to literary metaphor, in particular to the Old Icelandic rhetorical device of kennings, a literal and textual approach to metaphor, which he argues with reference to Chavín art of Early Horizon Peru (Rowe 1962). In many cases, however, it is likely the deep mythic association of snakes and feathers employed in headdresses and other ritual attire, and the deep native exegesis of feathers, that promise the more productive interpretation.[6] This substitution pattern suggests that the iconic snake-lizard-crocodilian and the spiral projection or emanation are sometimes equivalent. On another level, such emanations also represent feather ornaments. There is abundant evidence from myth to indicate the many correspondences between serpentine elements and feathers, which may be further illumi-

[6] One of the common understandings of ancient American symbolic process is the notion of *pars pro toto*, or the part for the whole, introduced by Peter David Joralemon (1976) in his pioneering studies of Olmec iconography. Joralemon borrows a term from rhetoric to explain the Olmec practice of selecting certain features of an animal, for example, to stand for the whole animal. With Intermediate Area and Andean body ornament, however, the inverse may be more appropriate: *totum pro parte*, the whole for the part. For example, the appearance of little birds on the heads of figures or at the top of depicted staffs in jade and in gold may actually signal "feather ornament" and not, as is commonly thought, that the little birds are shamanic alter egos or spirit helpers. At the small scale of jade and goldwork, and perhaps in textiles as well, a small figure is more legible than a small feather. In some cases, little wood models of birds, like decoys, are actually fixed into feather headdresses by Amazonian groups (Candler 1991). Thus, too-literal understandings of representations risk missing the ritual or performative intent.

Fig. 5 Gold pendant, amphibian with serpentine and spiral emanations. Veraguas region, Panama. Dumbarton Oaks, Washington, D.C.

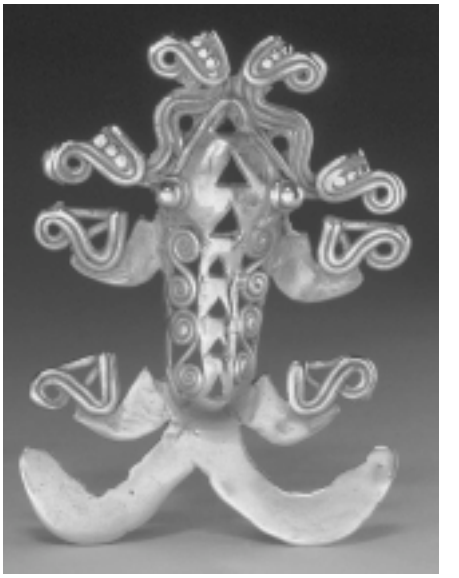

Fig. 6 Gold pendant, amphibian with serpentine and spiral emanations. Veraguas region, Panama. Dumbarton Oaks, Washington, D.C.

nated by the rich symbolism of feathers documented ethnographically in tropical America. In some cases, in fact, gold ornaments may be understood as deluxe versions of feather ornaments, and thus, surprisingly, the symbolism of feathers may help us explain the symbolism of gold.

The depiction of serpentine and crocodilian emanations was also formalized into ornamentation, in the form of abstract spirals, as one can see in the serpentine and spiral forms emanating from the mouths of the frogs and toads that are so common a feature of Isthmian goldwork (Figs. 5, 6). Reichel-Dolmatoff in several of his ethnographical studies of Colombian indigenes links the spiral to a "deep," or sub-ritual, discourse on fertility that, he asserts, underlay much of the material and intellectual culture of northwestern South America. The following is his elucidation of the spiral in Tukano basketry:

> The symbolism of the spiral (*oréro*) is very complex; the verb *oréri* has the following alternative meanings: "to break away from something, to separate, to leave the womb, to be born;" when strongly nasalized it means "to form a spiral, a whirlpool, a dust devil." The expression *dia oréri* can be literally translated as "river to break away from," and refers to several shamanistic images; one is that of a river (*dia*) as a life-creating force, hence a new being emerges; thus the expression *mahsá dia oréro*, lit., "people-river-to-break-away-from," but which can be glossed as "where human origins are." Another verbal, mythic image is that of the slowly moving coils of an anaconda, the huge aquatic serpent which represents a maternal, birth-giving con-

Fig. 7 Gold figure pendant, classic Tairona style with fiber pattern headdress, plaited collar, armbands, and ritual staff with spiral emanations. A plaited pattern covers the penis, perhaps in imitation of a similarly shaped penis sheath. The figure also wears nose ornaments, spiral ear ornaments, and a labret. Santa Marta region, Colombia. Dumbarton Oaks, Washington, D.C.

> cept. . . . From textual analyses and detailed commentaries it would seem that the entire *oréro* concept is related to—if not derived from—physiological imagery of copulation, gestation, and birth . . . the occurrence of spiral elements in basketry is to the initiated a constant reminder of these forces and processes. (1985: 26–27)

Braided and spiral-wrapped cord motifs are ubiquitous in goldwork as frames, connectors, and projections or "emanations," obvious imitations of basketry and fiber patterns and perhaps iconographic signatures of those symbol-laden crafts (Figs. 1, 7). The technical process of lost-wax casting facilitates such simple two-strand plaiting because the twisted cords are easily formed in the pliable beeswax used at the beginning of the casting process. One might then hypothesize that such spiral and plaited motifs in Pre-Columbian goldwork are nonfigural icons of creation, as explained by Reichel-Dolmatoff for historic Northwest Amazonian basketry and fiber arts.

Peruvian anthropologist Luís Eduardo Luna, in his work with *vegetalistas*, herbal healers, of the Peruvian Amazon, uses the English word *emanations* to describe what apparently are the shamanic spirit helpers imagined by one of his informants as "electromagnetic emanations" from their bodies, although in this particular case the emanation is a jaguar, as in this healing incantation:

> Behind him it comes/the jaguar already tamed/my tinguna is likewise/it comes behind him.
>
> Behind him it comes/the red jaguar/it comes screaming/my tinguna comes likewise. (1992: 243, 252)

As for the native term *tinguna*, Luna cites the Quechua dictionary of Diego González Holguín, suggesting that the mestizo term tinguna is related to the Quechua *tincuni*, *tincunacuny*, glossed as "to quarrel," "to compete," with the common sense being that the emanations are construed (or imagined) by the vegetalistas as their spirit protectors and defenders.

North American scholar Armand Labbé, who has curated several museum exhibitions of ceramics and gold from the Intermediate Area and written or edited accompanying catalogues, has extended the poetic-incantatory notion of shamanic emanations to the visual world of Pre-Columbian imagery, suggesting that the tinguna notion explains the widespread iconographic feature, in art of the Intermediate Area, of serpentine and crocodilian projections not only from animal and human figures, but also from ritual furniture, such as benches and stools, which may also have been construed as animate (1998: 27, 43, 48, 68). According to Labbé, these emanations are the mark of empowered shamans, and they appear on animal and human figures as crocodilian or "dragon" heads and also on ceramic images of figures seated on bicephalic "dragon-headed" benches. Labbé suggests that in Intermediate Area goldwork, these emanations "often take the form of serpentine projections extending from the shaman's body with the head of a crocodilian or dragon" (Labbé 1998: 68). In Colombia, according to Labbé, the earliest depiction of a tinguna emanation is a gold figure in the Ilama or Malagana style from the Cauca Valley, dated 200 B.C.–A.D. 200 (1998: 88, cat. no. 67). These emanations, however, might be better understood as sculptural renditions of graphic (that is, two-dimensional) motifs, because they provide front and rear views but no intelligible side view. They probably thus derive from such two-dimensional Andean image traditions as embroidered textiles, such as those from Nazca, for example, where snaky hair, belts, and similar "emanations" are common features.

There is a certain danger in a too-literal interpretation of ancient imagery solely on the word of contemporary accounts of therapeutic practices that are, now, in times of ethnic extremis, certainly more folklore than elite lore. Of course it is advantageous to have something approximating a native term for and exegesis of these emanations, but this should not circumscribe the hermeneutic horizon.

There is much evidence to suggest, not in opposition to the work of Luna or Labbé, but as a complement, that these emanations, whether crocodilian, serpentine, or spiral, have dimensions in addition to references to the therapeutic imagery of marginalized Indians. These emanations reflect profound efforts to depict a native hermeneutic of immanent creation and fertility, first, by reference to natural secretions and exudations that are variously whitish, creamy, bubbly, slimy, sticky, and pungent, substances that are often taboo-laden as well, and second, by reference to what can only be described as a mythic claim of male pregnancy. The mythic role of the serpent as progenitor is exemplified by the Tukanoan Desana anaconda, or Snake Canoe. This mythic anaconda progenitor travels up real rivers that are embodiments of the Milky Way, or the "Milk River," establishing along the way sibs or exogamous local groups, which are symbolized by their residential longhouse or *maloca*. In his now-classic account of the creation mythology of the Tukano, Reichel-Dolmatoff states "[The Snake Canoe] is the personification of a phallus that ejaculates, a new creator, sent by the Sun to populate the earth. . . . 'The men left [the progenitor phallus Snake Canoe] by a

Fig. 8 Gold figure pendant, male blowing a conch trumpet and with crocodilian and spiral emanations, ligatures, and serpentine knee joints. The penis is represented as a snake head, perhaps in imitation of a similar penis sheath. Chiriquí region, Panama. Dumbarton Oaks, Washington, D.C.

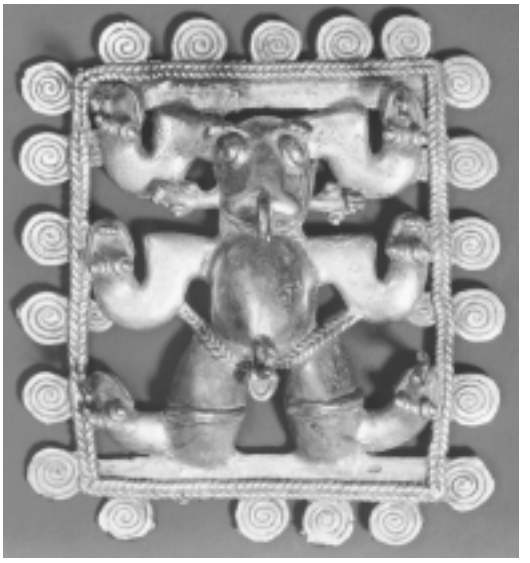

Fig. 9 Framed figure pendant, with braded frame and spiral emanations. The figure has serpentine emanations from legs and head or headdress, serpentine hands, and a snake-headed penis, as in Figure 8. Chiriquí region, Panama. Dumbarton Oaks, Washington, D.C.

hole in the front of the canoe; they gushed forth like white bubbles.' The symbolism is unequivocal, superimposing on this scene various images: coitus, ejaculation, and birth" (Reichel-Dolmatoff 1971: 55, 57).

The progenitor phallus Snake Canoe ejaculates Desana men, not women, through a watery channel into the uterine container, that is, the longhouse. It is not unusual in more complex figure ornaments to find a full complement of emanations—crocodilian, serpentine, and spiral—along with a snake-headed penis, perhaps rendering a similarly shaped penis cover (Figs. 8, 9). The mythic and ritual identity of snake and phallus, probably evoked constantly in the canoes tied up at the riverbanks, could hardly be more literal.

In the work of such modern ethnographers of northern South America as Reichel-Dolmatoff, Christine Hugh-Jones (1979), Stephen Hugh-Jones (1979), and others, one might begin to see the outlines of a narrative of creation that twists together snakes, the phallus, semen, coition, and the Milky Way as a cosmic river of transcendent fertility. The northwest Amazonian notion of a transcendent cosmic substance may be compared to the concept of *itz*, "cosmic sap," elucidated for the Maya by David Freidel and Linda Schele: "Communication with the Otherworld also involves the powerful concept of itz. In the Maya world of today, itz refers to excretions from the human body like sweat, tears, milk, and semen. But it can also refer to morning dew; flower nectar; the secretions of trees, like sap, rubber, and gum; and melting wax candles" (Freidel, Schele, and Parker 1993: 210).

How do cosmic fertilizing juices relate to the goldwork of the Intermediate Area? It is interesting that the wearing of ligatures or constricting bands around the limbs, especially below the knee, is very common among Isthmian and northern South American groups. The ethnographic literature explains this custom as apotropaic, an act of magical protection. Rafael Karsten, for example, discusses ligatures under the rubric of fixed ornaments, as opposed to detached or removable ornaments: "[The bands, girdles, etc.] begin to be used, as a rule, at an early age and with certain ceremonies, and when once put on are seldom or never removed. This kind of ornament is met with in many parts of South America, and is more commonly worn by women than by men" (1926: 131). Karsten adds that in some groups boys may retain the arm and leg bands until they reach puberty, when the bands are replaced by a labret for pierced lips; he also observes that ligatures in general are worn apotropaically. Karsten even compares the spiritual or therapeutic function of ligatures to the (Western) use of a tourniquet in case of snake bite: "Just as civilized [*sic*] people may, in a case of snake-bite, apply a ligature or cord round the bitten limb above the wound so as to prevent the poison from spreading, so the Indians consider such ligatures as a hindrance to evil spirits" (1926: 134).

Of interest is Karsten's reference to snakes, in which he relates the observable swelling of the calf (or whatever part is ligatured) to the Western practice of applying a tourniquet to a snake-bitten limb (and then, after having cut deeply into the flesh, sucking out the venom, supposedly). European observers noted early on that the constricting band caused the limb to swell greatly, and Rowe (1944: 237) notes that Inka men "appreciated" the swelling that ligatures cause in the calves of Inka women, like a "well-swollen" ankle. Thus, there is evidence to associate ligatures with the attainment of puberty among boys and as permanent markers of femininity for girls and women. For both sexes, then, ligatures, and the swollen calves that they create, were symbolic of reproductive potential and fertility.

Other myths recorded from northern South American groups concern giving birth from an unusual part of the body. A few of these myths describe giving birth from the thumb, but most are, oddly enough, about males giving birth from the calf of the leg. The Yaruro of southwestern Venezuela were once thought to speak a Chibchan or Jivaroan language, but are now considered to speak an isolate.[7] In the Yaruro myth compendium of Johannes Wilbert and Karin Simoneau (1990b: 21–23), Kumañí, the creator goddess, dreams about giving birth to the sun through her thumb in Myth 3. Afterward, Kumañí pierces her tongue with a stingray spine. This myth thus begins with the penetration of a swollen extremity, which leads to the emergence of a stream of blood, but not from the same body part. Birth from an unnatural part of the body perhaps signifies nonhuman or supernatural fertility. The thumb and the mouth here represent upwardly displaced counterparts of the vagina. Bloodletting from the tongue or mouth thus equates with menstruation, implicitly constructing a metaphoric chain linking mouth, vagina, and menstrual blood.

The Yanomami of Venezuela also have been variously thought to speak a Chibchan or Cariban language, but more recently were considered to speak a language from a separate

[7] Language classifications used here are from the volume on Amazonian languages by R. Dixon and Alexandra Aikhenvald (1999), especially from the article by Aihkenwald and Dixon (1999) on linguistic isolates.

family. In one Yanomami myth (Wilbert and Simoneau 1990a: 55–59, Myth 19), the story of Peribo, the moon, describes a time of creation when there were only men and no women. The men were born, as though from a cosmic menstruation, when drops of blood rained down from Peribo, who is thus a menstruating man: "[F]rom Peribo's blood only men had been born. There were no women. Therefore these men used as women the holes in the trees and the anuses of their companions. But there were no real women to increase the population" (Wilbert and Simoneau 1990a: 57). One man, Xiapoko-riwe, tires of having intercourse with anuses and trees and decides to make a hole in the calf of his leg. His companion, Kanobo-riwe, copulates with the hole in the calf, and Xiapoko-riwe's calf becomes pregnant. Xiapoko-riwe's leg then gives birth to the first Yanomamo women. Xiapoko-riwe, however, becomes ashamed of the hole in his leg and changes into a bird called *xiapokoromi*.

Myth 22 recounts a similar birth from a man's calf involving the two brothers Omame and Yoasi. The myth notes that the inseminated calf swells up just like a woman's stomach, an obvious allusion to the swollen calves produced by wearing ligatures. In a related story, Myth 23, a man named Omame makes his penis thinner so it will fit into the narrow crease behind his brother Yoasi's knee. Another story, Myth 25, an origin myth of the Sanema group of Yanomami, tells of a time when men of the bat people had no women and thus copulated with other men to produce births, of men, from the calves of their legs: "Although the bat people had no women . . . they copulated a lot. Being only men and having no wives they copulated on the calves of other men. Their calves became pregnant and that way they had children" (Wilbert and Simoneau 1990a: 64). Finally some birds came to visit and showed the bat people how to make vaginas:

> It was the koli [bird] people who created women. They knew all about women. They came to visit the bat people and noticed them copulating on the calf . . . [and then] . . . the koli people pulled off a penis. . . . They pierced a hole where the penis had been and thus made a vagina. . . . "This hole here is where to copulate, not the calf," they said. . . . Those koli people were chiefs, those ones with the red beaks. That red on the beaks is the result of their piercing the vagina; it's the women's blood. (Wilbert and Simoneau 1990a: 64–65)

Thus, the Sanema created their women by excising the sexual organs of male bat people.

In these myths the prominent beaks are specifically phallic: they penetrate, they are stained with women's vaginal (menstrual) blood; the beak-phallus is a founding engenderer. These myths thus envision a total inversion of gender: men menstruate and give birth, men create women, men are the primordial roots of society. This mythic focus on the phallic beaks recalls the association of gold "eagles" with high-ranking men in the Isthmian area in the 16th century. There is also a symbolic association with beeswax, the sacred "sap," or itz, that gives birth to the golden ornament.[8]

[8] See Eugenia Ibarra (in this volume), for historical evidence suggesting that women did not wear "eagles," and Ana-María Falchetti (in this volume), for suggestions that the making of the wax models used in gold casting may have been construed as a kind of "ensouling" of humans as if in a "uterine hearth." This notion of

In other Yanomami myths in this series, crested oropendolas copulate with another bird's toe or leg, making the digit or limb pregnant, and so the first women are born (Wilbert and Simoneau 1990a: 65–66, Myths 26 and 27). Here again, the beaks of these birds are mythical phalli, and a limb is the site of insemination and parturition. Thus, several myths from northern South America describe beaks of birds instituting binary sexuality by removing penises and pecking proper vaginas in their place. This warrants taking another look at the prominence of large-beaked birds in the imagery of the Isthmian area, as in the famous beak-bird, or *ave-pico*, theme of Costa Rica, widely represented in jade and in stone sculpture. Years ago, Costa Rican archaeologist and collector Carlos Balser related the ave-pico theme to an Antillean myth, reported by Peter Martyr, in which the beak-birds pecked vaginas to create women (Balser 1955).

These Yanomami myths are among the more interesting and salacious narratives of a class of northern South American myths concerned with birth from unexpected body parts, of which perhaps the most common is that of a man giving birth from the calf of his leg.[9] In the myths of a number of linguistically disparate but geographically proximate groups in northern South America, swollen calves are, in effect, the pregnant bellies of men, and a group of Yanomami myths relates stories of how copulation in the calf or leg was the norm before men created women. Men create women in several ways: copulation in the calf results in the birth of the first women, or women can also be created by removing the penises of men and pecking a vagina in their place with a beak-phallus. This sounds eerily like Freud's mythic scenario of the psychic constitution of women, in that they fear that the female organ is the mark of the castration of their (original) penis. These myths strongly assert the primacy of men in creation and fertility, in a mythic Eden, before humans were separately sexed, when there was only male sexuality, and when male homosexuality was the norm. A common narrative feature of these myths is the subordinate place, even the absence, of women in mythic biology and reproduction. The Mesoamerican notion of a primeval and seemingly co-equal aged mother-father creator couple may not exist in the Intermediate Area, where, in myth and imagery, the male term of binary sexual difference is frequently privileged.

The mythic importance of the swollen male calf, so obvious in these myths about the creation of women by men, freshly illuminates the frequent appearance of ligatures on figures in gold and other media in the art of Costa Rica, Panama, and Colombia. The connection between ligatures that make calves swell like the bellies of pregnant women and the mythic birth of women from men's calves suggests that ligatures are a coded allusion to a masculinist ideology of creative primacy. Ligatures may thus be visual analogues of such gender-biased rituals as the so-called Yurupari complex found in much of the northwest Amazon. The Yurupari is a ritual-mythic cycle predicated on primal gender conflict over

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wax as a fertilizing or animating substance is similar to the Maya itz, as noted above. See also Stephen Hugh-Jones (1979) for extensive discussion of the symbolism of beeswax in the northwest Amazon, within the context of the Yurupari ritual complex.

[9] Mary Helms (1997; 2000) discusses at length the apparently related theme of the severed leg as depicted in Panamanian painted ceramics of the central provinces. She notes, for example, that the crest feathers of the curassow may be rendered as a severed leg, often with a ligature clearly indicated as a simple band. Helms, in a richly detailed account, argues that ligatures are markers of mythic creation.

access to ritual artifacts, especially flutes, whose phallic symbolism is fairly obvious.[10] The gender conflict is ultimately resolved in favor of men, who become the custodians of the sacred flutes, myths, and songs, the sight of which is nominally forbidden to women.

Yolanda and Robert Murphy, in their work among the Mundurucú of Brazil, describe a variant of the Yuruparí complex and the women's theft of the men's phallic flutes, and note that the resolution in favor of men insures an ongoing sexual-gender tension.[11] What, then, of the numerous gold figures of the Isthmian traditions with crocodilian or serpentine emanations from the legs and other limbs or body parts? Because there does not appear to be any pattern in the appearance of either emanation, they may be provisionally construed as more or less interchangeable. Murphy and Murphy report (1985: 120), interestingly, that Mundurucú men called the vagina the "crocodile's mouth," understood rightly as a variation of the ancient Andean *vagina dentata*, one of the earliest iconographic signs of the tectonics of sexuality and gender at the very heart of their formulation of ideologies and cosmologies.[12] Among Tukanoan speakers of the northwest Amazon, who were neighbors of Paézan speakers in southern Colombia, sibs have their origins in an ancestral snake, an anaconda, and the travel of the anaconda upriver establishes the ranking of the sibs, with those upriver being higher in rank than those downriver. Among Tukanoans, the progenitive anaconda establishes and represents the structure of the society, the discrete exogamous and patrilineal sibs. The ancestral snake either "vomits" (that is, ejaculates) humans out of its mouth or transforms its body. In the context of goldwork in the wider Intermediate Area, serpentine or crocodilian emanations from various parts of the body, especially the leg and calf, may be a coded allusion to this ideology of male primacy in creation. The notion that human society was established by the travels of a giant snake suggests that the anaconda of Tukanoan myth is nothing less than a giant detached phallus. Notably, the penises of many of these gold figures is literally transformed into the head of a snake, a literal image of the ejaculating snake of myth (Figs. 8, 9).

Men with Breasts and the Meaning of Mammiform Pectorals

If in myth men can give birth from their legs, and if men can create women by removing women's penises, then the appearance of men with breasts and penises is perhaps not

[10] On the Yuruparí and similar ritual-myth complexes of the Amazonian area, see Gerardo Reichel-Dolmatoff (1996) for a densely annotated transcription of a Tukanoan ritual that he began by working with a single informant, and Stephen Hugh-Jones (1979) whose careful analysis of a (related) Barasana ritual derived from fieldwork in Barasana settlements. Both authors make extensive reference to earlier accounts. In this essay I offer a preliminary argument linking the Yuruparí ritual-myth complex to prehistoric civilizations of the Intermediate Area as reflected in the iconography of gold ornaments.

[11] As the Murphys state, "The entire charter and rationale of Mundurucú sex roles is contained within a single myth, which tells of the invention of the sacred musical instruments, or *karökö*, and of their relation to male ascendancy" (1985: 113). "The myth of the *karökö* is a parable of phallic dominance, of male superiority symbolized in, and based upon, the possession of the penis" (1985: 113).

[12] See Richard Burger (1992: figs. 178, 207, 212) for illustrations of the vagina dentata theme in the art of the Early (Chavín) Horizon of the Central Andes.

surprising. Among the gold ornaments from the Isthmian tradition are figures of men with prominent breasts. How should one interpret these images of men with breasts? Several ethnographers, among them Reichel-Dolmatoff (1971) and Christine Hugh-Jones (1979), have discussed the complex semantics of fertile white fluids among Tukanoan speakers of the northwest Amazon, assembling and commenting on the existence of a category of cosmic fertilizing fluids that includes mother's milk, semen, manioc juice, narcotic potions, and the Milky Way (that is, the Underworld River of the Dead). Perhaps, then, the inclusion of prominent breasts on gold figures is another allusion to male possession of the milky fertility of nursing women, a symbolic and ideological appropriation of another power biologically lodged in women.

In addition to protruding breasts (albeit sometimes located closer to the armpit than is normal, as often are those of women similarly depicted) on gold figures of men, there exists another category of iconographically related gold artifacts—mammiform pectorals on which breasts, nipples, and sometimes areolae are worked in relief from behind, or in repoussé. Such pectorals were probably worn suspended over the chest of a person or figure or bundle; limited historical evidence indicates that only men wore gold plates (Ibarra, in this volume). Some ornaments are circular, with the breasts arranged in cardinal or intercardinal fashion (Figs. 10, 11, 12). The addition of a central motif creates a quincunx, a cosmogram that in Mesoamerica has been shown to signify the cosmic road or the Milky Way (Figs. 13, 14). For example, a four-legged bench or throne becomes a quincunx when a person sits upon it, such as a staff holder who would thus personify the vertical *axis mundi*. The Kogi loom is another example of an activated quincunx: the ends of the two horizontal beams mark the intercardinal points, while the seated male weaver completes the quincunx cosmogram. In addition, when the weaver wears the loose robe of the Kogi and sits upon the typical low wooden stool, he replicates the displayed, or hocker, pose depicted in Tairona art that is normally associated with women.

Gold ornaments often depict or replicate artifacts of similar function made of fiber, cordage, and plaiting. Thus, gold bracelets and anklets reproduce actual fiber bindings or ligatures, and the arching and radiating headdresses of gold and ceramic figures certainly depict the fiber and feather headdresses that are so spectacular a product of historic Amazonian groups. Some gold ornaments replicate the motifs depicted in cast gold figures. The famous Tairona double, or Celtic, scroll ornaments would give the wearer the same kind of spiral emanation that is depicted in gold figure pendants. Many of the elaborate nose ornaments in various Colombian styles probably represent these emanations. In the same fashion, the exquisite Tairona labrets transform the mouth of the wearer into an orifice giving birth to a supernatural crocodilian or serpentine emanation, an animated version of the emanations from the legs of so many gold figures (Fig. 15). In much of the gold of the Intermediate Area, the scroll, with its various permutations, appears to be an icon of cosmic juices and emanations, emerging from actual orifices (mouth, nostrils, ears) and mythic orifices (legs, waist belts), comparable to the notion of itz in Mayan cosmology. Many ovoid and circular hammered gold plates with raised bosses may thus represent breast and fertility symbolism, with the detached breast being a crucial icon of creation as a source of cosmic milk. The

Fig. 10 Gold disk, with breast forms at intercardinal points and triangular deity masks at cardinal points. The disk has an areolae-like border. Veraguas region, Panama. Dumbarton Oaks, Washington, D.C.

Fig. 11 Gold disk, with seven radially arranged breast forms encircled by an areolae-like border. Dumbarton Oaks, Washington, D.C.

Fig.12 Gold disk, with large intercardinal breast forms and small pairs of breast forms at cardinal points, the whole with an areolae-like border. Veraguas region, Panama. Dumbarton Oaks, Washington, D.C.

Fig. 13 Gold disk, with intercardinal breast forms and a central crocodilian to form a quincunx cosmogram. Veraguas region, Panama. Dumbarton Oaks, Washington, D.C.

Fig. 14 Gold disk, with intercardinal breast forms, triangular deity masks at cardinal points, and a central crocodilian to form a quincunx. The disk is encircled with a basketry pattern. Veraguas region, Panama. Dumbarton Oaks, Washington, D.C.

iconographic separation of the breast from the female body is important because it completes the symbolic appropriation of the woman's body, the vagina already having been mythically relocated to the legs of men.

Men on Display

The displayed male figure represents the stunningly obvious transformation of the theme of the displayed or heraldic woman. As many know, the displayed woman was the subject of a classic essay by Douglas Fraser (1966) more than thirty years ago. The theme was later taken up in Pre-Columbian studies by, among others, Cecelia Klein (1976) and Tom Zuidema (1992), although in very different ways. The displayed figure—the heraldic figure adds symmetrical flanking motifs—is inherently apotropaic and for genital exposure; glo-

Fig. 15 Gold labret, or lip plug, classic Tairona style with crocodilian head with scroll and spiral emanations. Santa Marta region, Colombia. Dumbarton Oaks, Washington, D.C.

bally it has been almost entirely female because the displayed, or splayed, pose so clearly alludes to the traditional squatting position for birth and to the powerful combination of the vulnerability and authority represented by the vaginal display, contradictions richly mined by artists around the world since the first millennium B.C.E.

Any pictorial tradition in which men assume this role of genital display would seem to call into consideration the issues of gender and power, especially the question of its meaning: Are men here portrayed as birth givers? Does the displayed phallus convey the same authority as the displayed vagina? Chibchan displayed male figures are not typically heraldic in the sense defined by Fraser, because they lack the flanking figures that make it a tripartite antithetical composition. Fraser (1966) shows clearly that the female displayed figure is the "norm," that it is concerned with the exposure of the vulval area in relation to the squatting, splayed pose of parturition. The displayed male figure is thus an anomaly at the outset, especially when it appears in such a socially restricted medium as gold. One might begin by wondering if the displayed male figure is a commentary on the displayed female figure, the explicitness of the substitution making the new icon all the more potent. If the displayed female figure merely represents the biological fact that only women can give birth, then the displayed male figure might be about some analogous claim, not biologically obviously, but rhetorically, in terms of myth, ideology, art, ritual, and the various intellectual armatures of power in society and the props for sanctions and taboos.

The northern region of the Intermediate Area has another instance in which a masculinist ideology of power was constructed from the artifacts of women's culture—the greatly elaborated corn-grinding stones, or metates. These were appropriated and transformed into the symbolic centerpieces of small-scale hierarchies in ways that brought men, warriors, chiefs, and captives for sacrifice into the symbolic realm of grinding corn, which had been the province of women (Graham 1992). Even the most benign and gender-neutral interpretations cannot escape this transformation of the women's tool of daily food processing into a platform for the male-dominated behavioral and symbolic realms of aggression and death.

Displayed male figures of Tairona attribution have been variously identified as chiefs and sun gods, although the figure portrayed may be one of several mythic and ritual characters. One of the clearest icons of the displayed male in Tairona art is in the Bogotá Museo del Oro (Zuidema 1992: fig. 12, and Bray, in this volume): a circular repoussé gold disk with a displayed male wearing a necklace and bracketed by two horizontal beams, the upper one going across (behind?) the neck and over the shoulders, and the lower one crossing in front of the ankles. Repoussé rings mark the cardinal points. The triangular face of the figure has small repoussé rings as ear spools, the penis is erect, and the figure has a bifurcated rayed headdress similar to those depicted in Tairona ceramic figures and ocarinas. This figure may be an icon of the Tairona sun god, as personified by a Tairona priest (Bray, in this volume). Seated at his loom, the priest reenacts the weaving and centering of the cosmos that is marked throughout the year by the traversing and reversing of the sun from solstice to solstice. For the Tairona priest, perhaps the ultimate expression of phallic creativity is the man seated at his loom, his legs apart, becoming the living center of the cosmic quincunx, as his weaving replicates the sun god's creation of the cosmos.

Conclusion

In recent years scholars have progressed greatly in deciphering the antiquity of indigenous American creation accounts, such as the Classic Maya illustrations of mythic episodes preserved in the Highland Maya Popol Vuh and the cosmic creation accounts proposed by, among others, David Freidel and Linda Schele (Freidel, Schele, and Parker 1993), and Kent Reilly (1996). Naturally, scholars working beyond Mesoamerica have wondered whether other cultural traditions have similarly ancient creation accounts. Mesoamericanists may have been somewhat at an advantage, owing to their scripts and to their relatively more abundant documentary sources after the Spanish conquest. The Intermediate Area is, however, not without some promise. Although the archaeological and ethnohistorical corpora are relatively poorer than for Mesoamerica, the southeastern realms of the Intermediate Area, especially those regions adjoining or near the upper reaches of the northwest Amazon and Orinoco River systems, have an abundance of ethnographic data of great value. The small scale of living and recent tropical forest societies in northern South America should not deflect us from serious consideration of possible continuities with prehistoric societies in nearby regions of the Intermediate Area. Having assembled for the present study a working corpus of gold images of anomalous sexual identity, it was possible to turn to the largest and most accessible archive of narratives of historical relevance to the Intermediate Area, namely, myths and stories recorded in northern South America (mostly) in historic times. Within this vast and uneven mass of texts, are groups of myths and tales that can contribute to a better understanding of the images analyzed above.

This essay is obviously not an iconographic survey of Intermediate Area goldwork, with charts and maps showing the distribution and age of styles and themes. It is, on the contrary, more like an iconographic biopsy, very localized, pointing to continuing differences between the approaches of art historians and archaeologists. In venues such as this, the

work of art historians (or, of the art historian) is often dismissed as overly particularistic, not attentive to the "larger" questions that concern archaeologists. Yet, one of the lessons that some have learned from the academic culture wars of the last decade is that cultures are less like seamless wholes and more like puzzles. Even when the pieces fit, they often have jagged edges, especially when it comes to power based on sexual authority.

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Gold, Stone, and Ideology: Symbols of Power in the Tairona Tradition of Northern Colombia

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We are the Elder Brothers.
We have not forgotten the old ways. . . .
We still know how to dance.
We have forgotten nothing. . . .
We know how to bless the world and make it flourish.
Kogi priest, quoted in Ereira 1990: 113

Certain gold and stone artifacts functioned as symbols of rank, status, and power in the Tairona world. Examination of these artifacts provides a chronicle of fifteen hundred years of continuity and change within a single cultural tradition.

The Tairona at the Time of European Contact

The term *Tairona* is a general, if not very accurate, label for the contact period Indian groups of the Sierra Nevada de Santa Marta and the adjacent areas of the Caribbean coast (Reichel-Dolmatoff 1953: 17–27; Bischof 1971; 1982–83). The word also applies to the archaeological culture created by their ancestors from around A.D. 800 to the Spanish Conquest. Spanish fleets first visited this coast in 1501–1502, and in 1524 Rodrigo de Bastidas founded the port of Santa Marta, from which military expeditions explored and eventually subjugated the hinterland. Tairona resistance was not finally broken until 1600. During the century between contact and conquest, Spanish soldiers and officials visited many parts of the Tairona homeland (usually to put down rebellions and to steal gold), and their observations entered into the writings of early colonial historians including Oviedo, Simón, Castellanos, and Aguado. Gerardo Reichel-Dolmatoff (1951) has collated this ethnohistorical information with full citations.

Spanish informants describe a densely populated area with towns and settlements of all sizes, from *pueblos* of 20, 40, or 80 houses to large towns with 400 to 1,000 structures that included ceremonial houses and temples. These figures fit well with the archaeological evidence from coastal and from highland regions for the existence of a three-level hierarchy of sites (Serje 1987; Oyuela Caycedo 1987b) in which the larger ones, such as Pueblito, have

some 1,000 structures (Reichel-Dolmatoff 1954a: 161; 1954b; G. Reichel-Dolmatoff and A. Reichel-Dolmatoff 1955).

Major towns, such as Bonda and Pocigueica, were governed by chiefs (caciques) and seem to have formed the nuclei of incipient states. There is an unresolved debate about whether a higher level of organization ever existed. Reichel-Dolmatoff (1951: 88–90) argues that a number of confederations had emerged by the sixteenth century; Henning Bischof (1971; 1982–83) maintains that these were ephemeral alliances and that no permanent supralocal structure can be recognized.

Whatever the truth, Spanish sources suggest that the Tairona had a hierarchy of office-holders. Oviedo notes that the ruler of Bonda was "the Lord of all the caciques of that province" (Reichel-Dolmatoff 1953: 88), and for the Valle de la Caldera Father Pedro Simón wrote in 1628, "The towns [pueblos] would be about two hundred and fifty, and most of them obey a cacique called Guacanaoma, though there is not a single town that does not have its own Cacique or Mohan" (Simón 1882–92, 5: 192). *Mohanes* were native priests, and the significance of the *naoma* element in the cacique's name is examined below. There is one possible mention of a female ruler, "a caciqua or principal woman among them" (Reichel-Dolmatoff 1951: 10), though the text is unclear about whether she was a ruler in her own right or simply a woman of high status, perhaps the wife of a chief. Some towns were divided into barrios, each of which had its subsidiary cacique (Reichel-Dolmatoff 1951: 88). Besides caciques, Spanish sources mention *capitanes*, *principales* (nobles), *mandadores* (commanders), and *capitanes de guerra*. Fray Pedro Simón (1882–92, 5: 197) also lists a *pregonero* (speaker or crier) who was second only to the chief. Spanish accounts do not list the duties and powers of all these officials, but it seems clear that there was a hierarchy of civil and military office-holders. One source mentions inheritance from father to son "en el oficio" (Bischof 1982–83: 88). The texts also mention merchants, craftsmen, weavers, goldsmiths, carpenters, and farmers, and one recorded example refers to earned status. Simón (1882–92, 5: 198) describes a category of warriors "who had demonstrated their bravery on various occasions, and were allowed to wear their hair long, and tucked into their belts at the back," a reminder that not all status symbols will be archaeologically identifiable.

The chronicles make frequent reference to naomas and mohanes, of whom there could be several in each town. The two words are often used interchangeably, and these people are usually considered to be priests and ritual specialists, the possible ancestors of the present-day Kogi and Ika *mamas* (Dussán de Reichel 2000: 88; for a contrary view see Bischof 1971; 1982–83: 88). In this connection, there is an interesting mention in the Relación de Tayrona (1571) to a town with two caciques; the principal one was called Mamanauma (Oyuela-Caycedo 1998: 52). The mohanes are undoubtedly priests (see Castellanos 1955, 2: 596), but the status of the naomas is less clear. Juan de Castellanos, writing in 1601, notes that naomas could hold political office and that they outranked ordinary caciques: "fifteen caciques, great señores, are subject to the command of the naoma called, it is said, Marocando" (Castellanos 1955, 2: 340). The same author also mentions a personage called Betoma, "whom they recognized as a Naoma and who held command over all the caciques" (ibid.: 548). The political power of sixteenth-century naomas is not in doubt, but their priestly role remains ambigu-

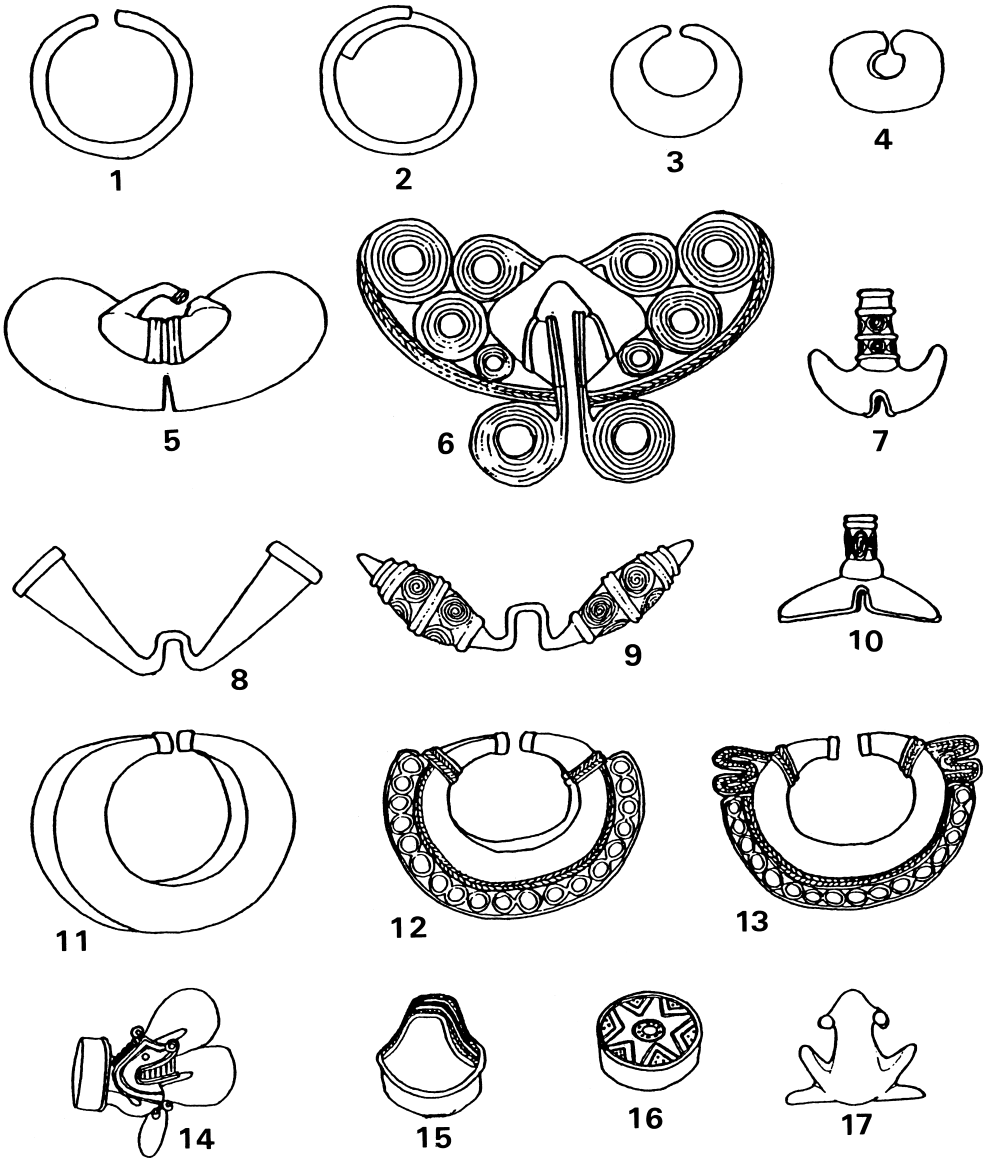

Fig. 1 Common categories of Tairona goldwork (after Plazas 1987)

ous. Among the present-day Kogi all *mayores*, adult men of high status, are called naoma or nauma (Reichel-Dolmatoff 1953: 46, 55).

The ethnohistorical sources provide evidence of ranking in the form of special costumes or insignia. On the coast, some people wore little beyond a belt or penis cover, sometimes made of gold, but others dressed more elaborately. Contact period descriptions of Tairona costume are consistent (Reichel-Dolmatoff 1951: 83–85) and emphasize four elements: cotton skirts and mantles with complex designs, multicolored feather headdresses,

gold jewelry (Fig. 1), and a profusion of stone beads of various colors. Concentration on archaeological goldwork has masked the fact that these were multimedia costumes, with a preponderance of brilliant or iridescent materials that are, in themselves, symbolic of secular and supernatural power (Saunders 1998 and in this volume). In this context, as José Oliver (2000) has demonstrated for the Taínos of the Antilles, each item of chiefly regalia reinforces the others so that the message is a configuration of symbolic meanings that is more than just the sum of its parts. Brilliance is also a metaphor for moral virtue. Among the present-day Kogi, Bunkuase (the Shining One), one of the sons of the Universal Mother, is "the personification of the highest moral principles in Kogi ethics, and is the patron and special guardian of the mamas" (Reichel-Dolmatoff 1977: 274).

The complexity and variety of Tairona ritual costume, including a multiplicity of feather headdresses, is revealed by little pre-Hispanic ocarinas and miniature figures (Mason 1931–39: pls. CCXXII–CCXLVII). The Kogi of the Sierra Nevada use these archaeological ocarinas today in special ceremonies connected with the summer solstice and equinox or with the appearance of the constellation of the Pleiades (Guillermo Rodríguez, personal communication, 1999).

Pedro de Aguado, writing in 1581, describes the appearance of the Indians in the sixteenth century, before the old customs had disappeared:

> Their persons are much adorned with objects and jewels of gold. The men wear ear-ornaments, each of which weighs 15 and 20 pesos, and caricuries in their noses, hanging from the cartilage in the middle, and great chaguales, which are like round plates and half moons [cf. Figs. 3 and 7] on their chests. And around their necks they put many kinds of beads made of bones and shells and green stones, which are much appreciated among them, and beads and metalwork made of gold. The women wear much the same jewels as I have described for the men, including very large bracelets and hanging items of gold, and on their legs above the ankles and on their calves they wear big beads of chaquira [shell], gold and bone, as much as each one's husband can afford, and they also wear these on the fleshy parts of their arms. Similarly, on their chests they put certain moldaduras [cast figures?] of gold, and with these they go covered. (Reichel-Dolmatoff 1951: 83)

In a 1629 account, Antonio Vázquez de Espinosa decribes the dress of the coastal Indians:

> The clothing of the Indians of the Diocese and State of Santa Marta consists of shirts and painted cotton blankets; they wear gold earhoops (orejeras), bits of gold in their nostrils, gold plaques and eagles on their breasts, with pebble bracelets, and gold pieces on their wrists and insteps. The caciques and principal men with more wealth than the others, wear also fine round precious stones and gold jewels. The Indian women wear petticoats and painted cotton blankets, lavishly adorned and decorated with gold jewelry and other precious stones. (Vázquez de Espinosa 1942: 316)

One of the most detailed descriptions of Tairona costumes is provided by Simón in his account of the Valle de la Caldera in the sierra. He refers to feather capes, sleeveless vests covered with feathers, feather fans, garments made of jaguar pelts, cotton clothing of various colors and designs, and, of course, gold objects. "There was no woman who did not have a set of jewelry, ear ornaments, necklaces, crowns, lip plugs, *moquillos* [translation uncertain] of fine gold, fine and well made stone items, and strings of beads. Around their necks all the girls wore four or six moquillos of gold, weighing from 12 to 15 castellanos" (1882–92, 5: 191). Other Spanish documents mention eagles, parrots, birds, frogs, figures of *zemis*, devils made in gold (Friede 1951), and a jewel representing two men "in that diabolical and unspeakable act of Sodom" (Oviedo, cited in Bray 1978: 45). The archaeological bird and animal effigies have been studied by Anne Legast (1987), Ellen FitzSimmons (n.d.), and Juanita Sáenz Samper (2003).

War costumes and ceremonial costumes followed this same general pattern. Castellanos describes the Tairona warriors of the sierra: "their heads adorned with long feathers, golden diadems on the foreheads. On their chests were pectorals or disks that caught the rays of the sun, with other jewels . . . hanging from their ears and noses. They were painted with annatto [a red dye from *Bixa orellana*] . . . and had bows and arrows in their hands" (1955, 2: 539).

Simón describes Tairona fiesta costumes:

> They had their appointed fiestas which they celebrated with dances, dressed in rich featherwork, and they did this especially at the times of the maize harvests, when the women also had theirs, dressed in white, with many necklaces and beads on their necks, legs and arms, and with golden jewels, according to what they had, at their necks and ears. (1882–92, 5: 218)

It is clear that both men and women wore gold, and the same is true of feather headdresses. In 1739 Nicolás de la Rosa remarked that the Indians still wore gold ear ornaments, bracelets, and necklaces at their festivals, ceremonies, and dances, and that principales wore fine gold while lesser people, "de menor categoría," used low-grade gold (de la Rosa 1975; Nicholas 1901: 613).

Several archaeologists have commented on the indicators of rank and wealth evident in the quality of domestic housing (Reichel-Dolmatoff 1954a; Cadavid and Herrera de Turbay 1985; Cadavid and Groot de Mahecha 1987; Serje 1987). In her comparative study of the architecture at Buritaca 200, Pueblito, and Frontera, Patricia Cardoso (n.d.: 202–216) points out that the largest and best-constructed house-rings tend to occupy privileged positions near the centers of the sites and also have richer contents. In particular, she identifies a number of large rings, located close to temples or ceremonial structures, whose contents include buried ritual paraphernalia. These buildings, she suggests, were the houses of important personages. Moving up the social hierarchy, the proportion of houses in each category becomes smaller. In Reichel-Dolmatoff's typology for Pueblito, 60 percent of the structures fall within his lowest category, 38 percent within his middle grade, and only 2 percent fall into his highest group.

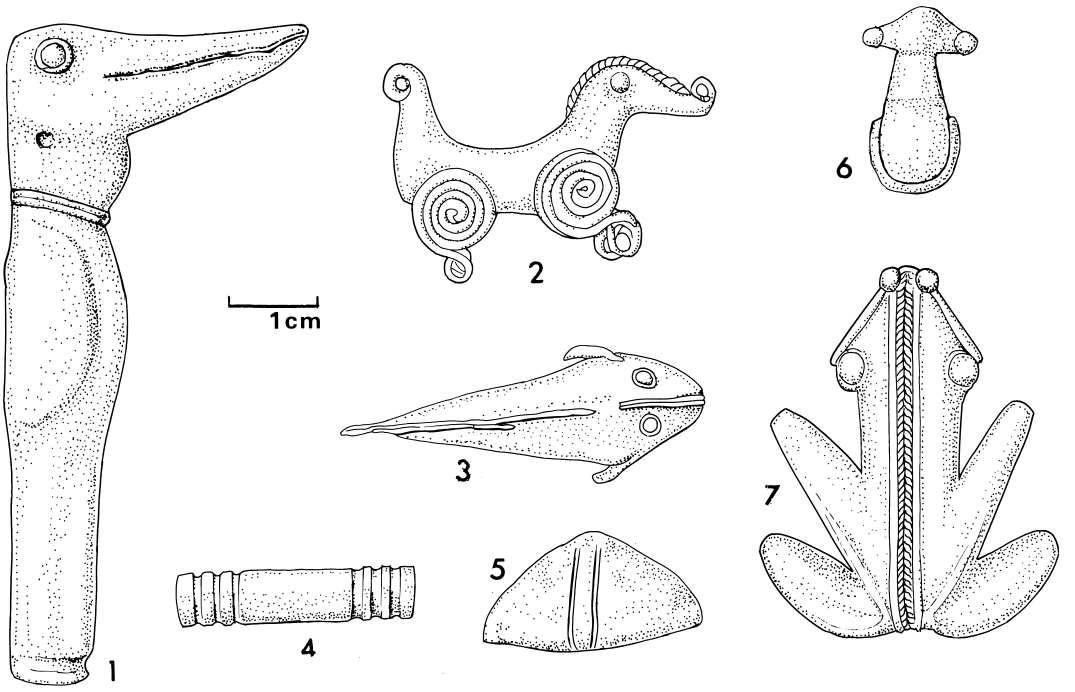

Fig. 2 Metal items from Herbert Huntingdon Smith's excavations at Gairaca (see appendix). Carnegie Museum of Natural History (nos. 2 and 3 redrawn from Benson 1997: figs. 2 and 89).

The funerary evidence, archaeological as well as documentary, confirms the existence of differences in wealth. The chroniclers describe several modes of Tairona burial (Reichel-Dolmatoff 1951: 92–93), including secondary burial in urns, dessication and burning, and the deposition in stone-lined vaults of trussed-up corpses "seated on stools [*dujos*], with bows and arrows in their hands, vessels with their drinks close by, and cakes and tortillas of their grain, their bodies dressed and adorned with golden jewels, beads and cacona [necklace beads?]" (Castellanos 1955, 2: 362). Rich and poor graves are recorded in Spanish accounts of a cemetery discovered in 1529 during excavation for building materials to construct the fortress of Santa Marta:

> They found up to one hundred tombs . . . and in only three of them they found up to six thousand five hundred pesos of this low grade gold, and after that they excavated many others but found no gold, from which it is clear that the gold was found only in the tombs of principal caciques. (Gaspar de Espinosa, cited by Duque Gómez 1958: 301)

Other sources complain that Tairona jewelry was nearly always of low-grade alloy, and was full of valueless core material (Duque Gómez 1958: 306–308; Friede 1951).

The archaeological evidence broadly confirms Espinosa's account. At Gairaca, on the coast, J. Alden Mason (1931–39: 25–31) unearthed forty-seven urn burials that together held between four and eight metal items, and Roberto Lleras Pérez (1985) excavated four urns

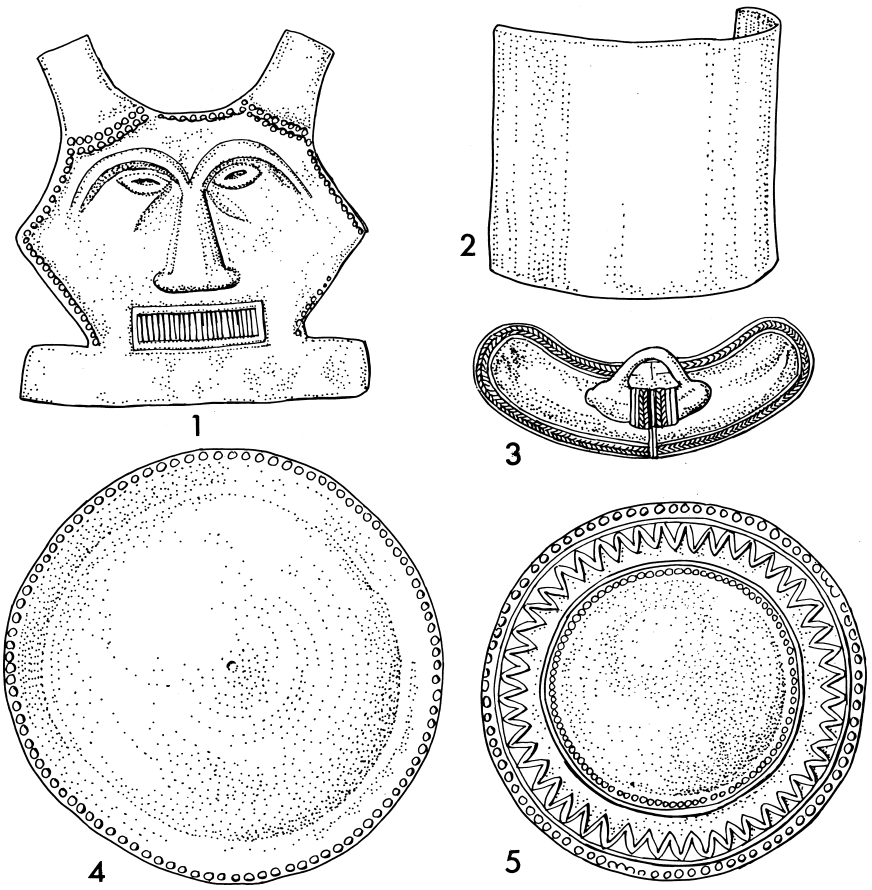

Fig. 3 Gilded *tumbaga* items found in a sealed pot at Jirosaca; Number 5 is one of a pair (see appendix). Not to scale (redrawn from Reichel-Dolmatoff 1958: pls. 1 and 3).

containing no gold at all. Herbert Huntingdon Smith, in the 1890s, excavated at least nineteen graves at this site, several with multiple burials, but only about six urns contained metal jewelry, with a few more items coming from loose soil (Fig. 2 and appendix; FitzSimmons n.d.). Reports on Buritaca 200 list two domestic complexes with tombs inside (or close to) the houses. On Terrace 49 one tomb out of six contained gold (Groot de Mahecha 1985: 68–76), and at the second locality the figure was one out of three (Lleras Pérez 1985).

Museum collections contain some 12,000 Tairona gold artifacts, but only a handful of these come from controlled excavations or other reliable contexts (Fig. 3). This strictly limits the conclusions one can draw. The appendix "Documented Finds of Tairona Metalwork," details all the reasonably well-recorded discoveries. Combining all sources of evidence leads to the conclusion that the majority of people were buried without gold, though a substantial minority were interred with some personal jewelry—mainly nose pieces,

ear danglers, labrets, beads, and anchor ornaments—and that those individuals buried in stone-lined graves had rather more, though nothing resembling the rich colonial discovery from Santa Marta has yet been found by archaeologists. Children as well as adults were buried with jewelry, and most of the items had been used, or even broken, before deposition.

Comparing this inventory with the full typology of Tairona goldwork (Plazas 1987) demonstrates that the most elaborate items are missing. Presumably they belong with the still undiscovered tombs of the principal caciques or, for some reason, were considered inappropriate as burial goods. An impressionistic, nonstatistical survey of museum collections does, however, allow the reconstruction of a hierarchy of gold items that mirrors the kinds of hierarchies discussed above. Everyday items of personal jewelry (Fig. 1) are fairly numerous; they occur in nonelite tombs and are represented frequently on modeled ceramics, notably (but not exclusively) on the large burial urns from coastal Tairona sites (see, for example, Mason 1931–39; pls. CXLIV–CLXVIII). These items constitute the most basic outfit. Within each category of ornament (ear rings, nose pieces, and so on) a limited number of forms can be recognized. Like the small variations in clothing, carrying bags, and lime dippers among the present-day Kogi, the different subcategories in Tairona goldwork may have been visual indicators of rank and lineage. Unfortunately, for lack of good archaeological data, this idea remains speculative and untestable.

Plain gold breastplates and "eagles," as described by Vázquez de Espinosa, are less frequent, but they too occur on some of the figurative pottery (Labbé 1998: fig. 106) and appear to supplement the basic outfit. Other items, in particular embossed plaques and cast figure-pendants, are few in numbers and are not represented on the pottery at all. Their relative scarcity, large size, fine workmanship, and iconographic detail suggest that these items were used by the highest ranks of Tairona society.

Gold, Stone, and Ritual Paraphernalia in the "Modern Tairona" World

Serveral writers have told the story of the transformation of the pre-Hispanic Tairona into the modern Kogi (Kággaba) and Ika (Reichel-Dolmatoff 1953; 1987: 77; Bischof 1971; 1982–83; Uribe Tobón n.d.; Oyuela-Caycedo 1998). It must be emphasized here that we are not simply looking at ethnographic analogies, but at ethnographic *continuities* (albeit with substantial changes) that the Indians themselves recognize, and that are fundamental to the way they define their cultural and ethnic identities.

The effects of the colonial experience and enforced changes in indigenous lifestyles are recorded in a series of documents that bridge the gap between the pre-Hispanic and contemporary Tairona. One of the earliest accounts, dated 1578 and transcribed by Carl Langebaek (1990), is a record of demographic collapse, with the abandonment of the coastal lands to the Spanish and the retreat of the remaining Indians to small settlements in the sierra. The gold mines were no longer exploited; the irrigation works were not maintained; the traditional civil authority, based on caciques, was already beginning to collapse, and the priests were emerging as the new leadership:

> They are of good understanding, and are inclined to keep up their rites and ceremonies. In general they have no lord whom they obey, except for the mohan who cures their diseases. When one of these dies his son takes his place; and to be a mohan like his father he has to remain ten years fasting, without seeing the sun. (Langebaek 1990: 113)

A similar situation is described by Nicolás de la Rosa, and from him the sequence continues, by way of the first formal ethnographies (de Brettes 1903; Preuss 1993), to the more recent studies by Reichel-Dolmatoff on the Kogi and Donald Tayler on the Ika.

The Kogi Cosmos: The Mother and her Sons

A detailed study of Kogi cosmology is provided in several papers by Reichel-Dolmatoff (1975; 1985; 1987; 1990). The central figure of Kogi religion is the Universal Mother, creator at the beginning of time of the cosmic egg that encompasses the universe. This egg-shaped universe has nine superimposed levels, and humankind occupies the middle one of these. The four upper levels (*nyui-nulang*, sun worlds) each have their own suns. The sun of the third level is Teiku, who lives there with his "family" of celestial beings, planets, and constellations. The cosmic egg is supported on two beams held up by four of the Mother's sons, who are also the lords of the four directions or corners of the world and of the sun's extreme positions (the solstices and equinoxes).

The Mother is not directly represented in Tairona goldwork or in present-day Kogi ritual costumes. After the Universal Mother, the principal divine personifications are her sons—Seokukui, Seizankwa, Kuncavitabueya, Aldauhuiku, and Mulkuexe—and their innumerable descendants. Through their roles in various acts of creation, all these figures are also spirit-owners (Mothers, Fathers, *Dueños*) of different aspects of nature, rulers over the rituals, and "the appointed guardians of certain aspects of human behaviour—cultural and biological" (Reichel-Dolmatoff 1977: 269). Many of these creator figures and dueños are the protagonists in today's Kogi rituals and dances, and I believe there are references to these personages and concepts in prehistoric Tairona goldwork.

Ritual Artifacts of Gold

The modern Kogi use ancient gold artifacts in their rituals (though they keep these items well hidden), and they talk of the days when gold was plentiful (Reichel-Dolmatoff 1981; Ereira 1990). Gold also figures in their myths, in particular the narrative of Taiku (Teiku), recorded by Konrad Theodor Preuss in 1915 as told by a mama at Palomino. Other myths make it clear that Taiku is an aspect of the sun, especially in his image as the solsticial sun (Reichel-Dolmatoff 1987: 86), and he is also the Father of gold and of metallurgy in general.

> In early times the younger brother Taiku used to make golden utensils for the mamas. After he had lived in the Sierra with the elder brothers, the younger brother

> Taiku went to the Rio Lagarto [on the coast] and during his stay there he began to make things of gold for the elder brothers. He made little tubes of gold, pectorals and ear ornaments. On their arms and legs they wore all sorts of ornaments, made by the younger brother, Taiku. Everything had to be kept in the ceremonial houses. For the dance in the ceremonial house he made gold diadems, golden caps, golden adornos with feathers, and seats to support the feather headdresses. In those days the younger brother Taiku made golden belts for both men and women, golden shirts, caps, carrying bags, lime flasks and the dippers for eating lime. He also made gold trumpets, rattles, flutes, seats and ceremonial houses of gold. The younger brother made all these things so that the original families of the Kágaba could wear these golden jewels for the dance in the ceremonial house, so that the apprentices could wear them, to consecrate the harvest, call the rain and invoke drought. . . . . He made other things of gold: catfish, snakes, crabs, birds, etc. He made all sorts of birds and four-legged animals in gold. Also a golden figure like a human being. This is what our fathers told us. (Preuss 1993, 2: 32–33)

The Taiku narrative describes, with some exaggeration but essential truth, the golden regalia and utensils once used by the mamas, and emphasizes the divine origin of these items. Kogi traditions also maintain that in ancient times the Sun was dressed in gold (Reichel-Dolmatoff 1981: 25) and that, before the Spanish stole them all, even the divining bowls were made of gold (Ereira 1990: 194).

As the Taiku myth indicates, gold ornaments were an essential component of the dance costumes worn by the mamas. The dances, which still punctuate the Kogi year, are to promote human welfare—to ensure harvests, control the elements, banish diseases, and so on—and to preserve harmony and balance within the cosmos and between mankind, the supernatural ancestors, and the forces of nature (Preuss 1993; Reichel-Dolmatoff 1985: 130–143). As the Kogi explain it, "Bailamos para no morir" (we dance in order not to die) (Reichel-Dolmatoff 1985: 135).

The ceremonies have three principal components: confession, dance, and offerings. For the dances the priests wear wooden masks representing various supernaturals—the sons of the Mother, Death, the dueños, etc.—and special costumes that closely resemble those of the contact period Tairona. Preuss and Reichel-Dolmatoff discuss these costumes in detail. A much-published photograph (Preuss 1993, 1: fig. 33; Looper 1996: fig. 13) illustrates a priest in the costume of Heisei (Death, the Master of diseases and of human sexuality), wearing a semicircular feather headdress, a kilt of dangling fibers, and a wooden mask. Joseph de Brettes (1903) also recorded these elements (Fig. 4), which are still in use today (Zuidema 1992: fig. 5). All three components—panache, kilt, and mask—appear on anthropomorphic clay ocarinas from pre-Hispanic Tairona sites (Fig. 5), and the mask of Heisei, with its protruding lower jaw and crossed fangs (sometimes sheathed with gold) can also be recognized on these whistles (Mayr 1986: 57).

The sacramental qualities of gold jewelry are illustrated by a nocturnal ritual witnessed by Reichel-Dolmatoff in a temple or ceremonial house:

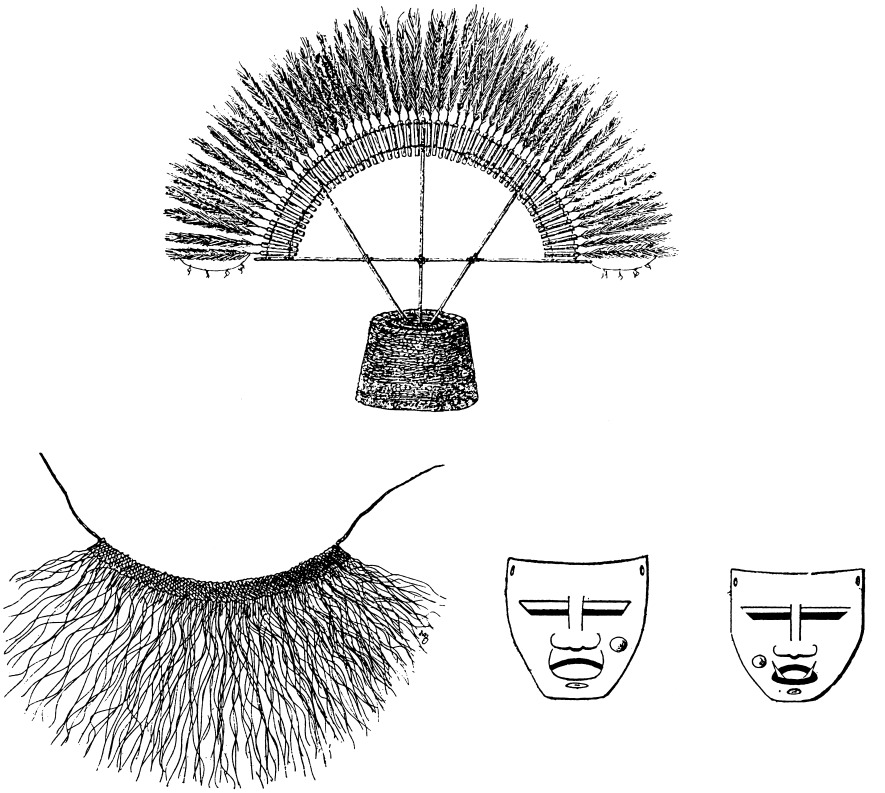

Fig. 4 Items of Kogi ritual costume (after De Brettes 1903)

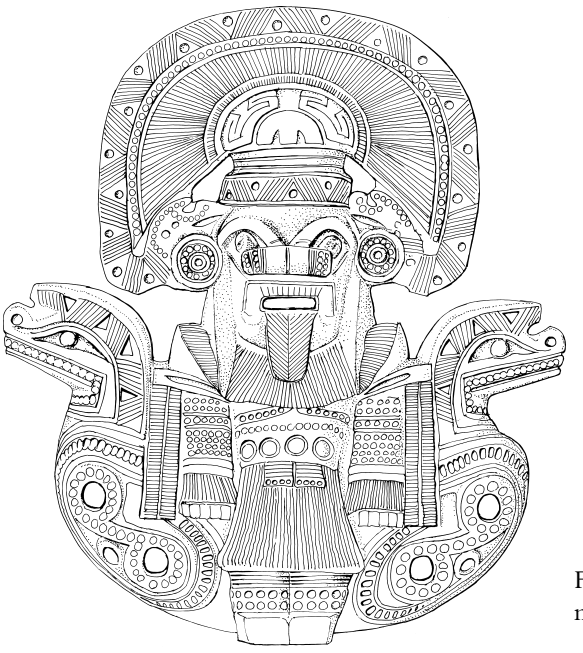

Fig. 5 Tairona clay ocarina depicting a masked figure in ritual costume. H. 11 cm.

> a mama personified the Sun, and his wife the Moon. These personages wore carved wooden masks, his representing a jaguar and hers a black puma. The ritual finished when the participants in the ceremony had a resplendent internal vision. "The gold began to shine" and the brilliance of the masks, bracelets and ear-ornaments worn by the mama and his wife induced visions. After carrying out a part of the ceremony in silence, and waiting until dawn, the personages Sun and Moon took off their masks and jewels, and the mama lit a new fire in the four hearths of the building. (Dussán de Reichel: 2000: 93)

Mamas and all men of status (adults over the age of 40 or 50) take part in the dances. Their costumes incorporate pre-Hispanic gold ornaments, especially armbands and ligatures in which Tairona gold bells and spacer plates are combined with stone beads (Mason 1931–39, pls. CLIX–CLXIII). Little gold bells are sewn onto the shoulders of dance outfits (Mason 1931–39: 261), and sashes are decorated with gold or copper ornaments in the form of turtles, felines, and pelicans and other birds (Reichel-Dolmatoff 1985, 2: 142).

Masks and gold regalia also play a role in the training of apprentice priests, as the Teiku story indicates. The training is arduous and is carried out under the tutelage of experienced mamas, in seclusion and darkness, over two nine-year cycles. At the age of four or five, the child apprentice is given his first gold ornaments: bracelets, rings, and necklaces of gold and stone beads. A year or two later he receives his wooden dance mask and feather crown, and his gold ornaments are augmented with necklaces and pectorals. Dressed in this regalia, for hours on end, night after night, the children are taught the dance steps, the cosmological recitals, and the elements of the creation story that together constitute the Law of the Mother (Reichel-Dolmatoff 1977: 279; 1985, 2: 120; 1990). It is this knowledge that will give the boys status and power in the community when they become fully-fledged mamas.

Ritual Paraphernalia of Stone

As with pre-Hispanic gold items, ancient Tairona stone artifacts are also used during Kogi ceremonies today (Reichel-Dolmatoff 1985, 2: 142–143). Some of the principal types are shown in Figure 6**.** The winged plaques (nos. 4 and 5), often (and dubiously) called bat-wing pendants, hang in pairs from dancers' elbows and chime together when they move. Ceremonial staffs (no. 1) made of stone are used only by the most important mamas (Guillermo Rodríguez, personal communication, 1999) and are carried during the solstice dances "to make the sun turn round" at the end of the dry and wet seasons. Archaeologically, staffs are represented, sometimes in the hands of masked figures, on Tairona ocarinas (Reichel-Dolmatoff 1986: fig. 166). Tairona monolithic axes (no. 3) are also carried by Kogi mamas during the solstice and equinox ceremonies; axes made of greenish stone are employed in rituals to call the rain, and those of reddish stone to call the summer (Reichel-Dolmatoff 1985, 2; 143). Stone bells (no. 7) may be the equivalents of the gold bells already mentioned.

To this list of ritual items must be added the miniature stone seats (no. 6). These miniatures, which have solar connotations (Looper 1996: 115–116), are used by Kogi mamas to

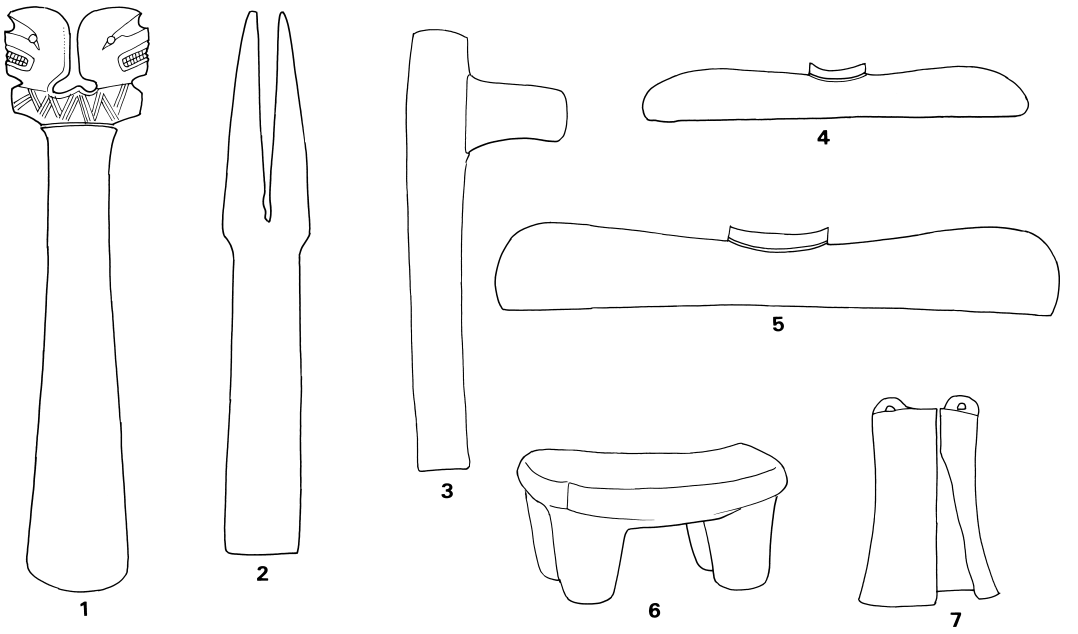

Fig. 6 Tairona stone items used in Kogi ceremonies, various scales (redrawn from Mason 1931–39)

pulverize stone for offerings, and they also play a role in divination, serving as the seats of visiting supernaturals and of the mama's own essence of being (Reichel-Dolmatoff 1953: 43; 1967: 11).

Archaeologically these stone items are repeatedly found together, usually with beads, and constitute a distinct subassemblage within the Tairona repertoire. At Pueblito, the greatest concentrations occur in structures identified as ceremonial houses, where they were cached in pottery vessels, buried underneath stone markers, or found loose in the soil. They were also deposited in smaller quantities in ordinary houses, perhaps the houses of mamas or mayores who participated in the dances. Some of these items were eventually buried with their owners, especially those who were interred in the more elaborate stone-lined tombs (Mason 1931–39). This pattern of deposition seems to indicate individual ownership, and the presence of ritual paraphernalia in a small minority of graves may allow us to identify the burials of naomas and mamas and the elite of Tairona society.

Beads

Pre-Hispanic stone beads of various shapes, sizes, and colors, with or without perforations, are a ubiquitous feature of modern Kogi life and are used by everyone (Cardoso 1987; Reichel-Dolmatoff 1985, 2: 97–111; Dussán de Reichel 2000: 91–92). Women wear them, combined with modern glass beads, on multistrand necklaces in one of the few outward signs of wealth. Beads enter into all aspects of ritual. Whole or ground into powder, they are deposited as offerings in sacred places, and there is an elaborate code governing the type of

bead required for each occasion and each supernatural recipient. Offerings of beads are placed in the sockets for house posts and below the fireplaces of temples (Guillermo Rodríguez, personal communication, 1999). They are also deposited in the roof apexes of temples (Reichel-Dolmatoff 1990: 25). Mamas use beads for healing and divination, and beads play an important role as *sewá*, symbolic "permissions" granted by the mamas, which are required for many everyday activities and also for participating in rituals or for holding office (Reichel-Dolmatoff 1990: 11). Offerings of beads wrapped in maize leaves are placed in tombs to serve as food, drink, and firewood for the dead. When a house is built, a pottery vessel is buried in the foundations, and for each member of the family a bead or pebble is dropped in, varying in size, shape, and color according to the age, sex, and lineage of each person (Reichel-Dolmatoff 1965: 148). Similarly, during construction of a ceremonial house, each male user brings beads that represent his family and puts them in a pot that is buried within the building (Reichel-Dolmatoff 1985, 2: 106).

The symbolism and usage of beads is a prime example of continuity between the pre-Hispanic Tairona and the modern Kogi. Beads have been found archaeologically in tombs, buried in pots below ceremonial and domestic structures, deposited with other ritual stone objects, scattered in the soil of cemetery areas, and beside roads, canals, and retaining walls of terraces.

Wealth, Status, and Esoteric Knowledge in Kogi Society

Soon after the final Spanish Conquest, the descendants of the Taironas ceased making fine-quality artifacts in gold, shell, stone, and wood, though much of their spiritual life remained intact (Reichel-Dolmatoff 1990; Uribe Tobón n.d.). The present-day Kogi maintain that the gold ornaments, wooden masks, clay ocarinas, and stone items they use in rituals are inherited from "los Antiguos," having been passed down, from generation to generation, in the families of priests, quite conceivably since the sixteenth and seventeenth centuries (Reichel-Dolmatoff 1990: 12 and pls. XLIII–XLVIII). Today, the masks and ritual paraphernalia are stored in chests or baskets in temples and caves. The most sacred of these sites are at high altitude and are rarely shown to anthropologists; their pre-Hispanic counterparts have not been excavated. This raises the possibility that a whole assemblage of ritual goldwork—the "Teiku List"—is missing from the archaeological record.

In contrast to earlier times, when replacements were available, ritual objects today are curated and preserved. They are not considered personal property nor are they communally owned; rather, they belong directly to the deity (Reichel-Dolmatoff 1985, 1: 128). They are symbols of power and status, but do not constitute "wealth" in the normal sense of the word. This pattern of ownership may well be a reaction to the circumstances of the Spanish Conquest but would, in any event, be archaeologically unrecognizable.

The accumulation of wealth is not a Kogi priority, though some Kogi are clearly richer than others. As Reichel-Dolmatoff (1985, 1: 209–213) notes, it is not wealth but *knowledge* (the esoteric knowledge that constitutes the Law of the Mother) that brings status in the community, though this apparent disdain for material goods is combined (even among the

mamas) with a keen awareness of rank and lineage (Reichel-Dolmatoff 1990: 5, 29). Although most communities have a headman who claims to represent the civil powers, ultimate authority resides in the Law of the Mother and with the mamas who administer it. It is this law that governs correct moral behavior, and if the rites, ceremonies, and offerings are not performed, the harmony and balance of the cosmos are endangered. Knowledge, literally, is power. The superior knowledge of the mamas is what gives them the right to make decisions for others, but for the ordinary man, too, the objective of life is "to know," to learn. To this end, men spend most of their spare time in the ceremonial house talking, discussing, and listening to the mamas as they explain the traditions. This, the Kogi believe, is how a man should spend his time; he should not waste it on working to accumulate riches.

We must not assume that the pre-Hispanic Tairona shared the attitudes of their marginalized descendants, but, in the present-day Kogi world, wealth and intellectual or moral status are not simply independent variables, but are in open conflict with each other. This, at least, is the ideal, though the everyday reality may be rather different. As Carlos Uribe Tobón (n.d.) discovered, some Kogi mamas are very much concerned with power politics, land ownership, and the commercial possibilities of the modern world.

The leadership role of the mamas seems to have intensified after the conquest, as secular leadership withered away. The data, however, force us to look again at the ethnohistorical claims for the dominance of naomas over caciques in the sixteenth century, and raise the question of who owned the finest Tairona goldwork: chiefs or priests?

Tairona Symbols of Power

Embossed plaques and cast figures represent the topmost tier in the hierarchy of Tairona goldwork. These are items of regalia in themselves, but at the same time they depict human or supernatural personages wearing clearly defined ritual outfits. Since the iconography of the goldwork is not self-explanatory, we must return to the present-day Kogi for ideas about who wore these artifacts and what the imagery may represent.

The Kogi and the Ika think through myth. Although all the Indian groups of the Sierra Nevada are closely related, there are differences in language, social organization, and belief systems between the Kogi and the Ika (Tayler 1997: 5, 173), between the Kogi of the northern slopes and the Kogi on the western slopes (Reichel-Dolmatoff 1987: 88), and—if conflicting versions of the myths are any indication—between the theological views of one mama and another. We are not, therefore, dealing with "received texts."

The beliefs embodied in the myths are poetic truths; they are not to be explained by Western logic, nor do they yield classifications of a Linnaean type. Kogi thought operates mainly by metaphor or analogy, "and this creates chains of association, usually on a specific level of categories. . . . Practically all objects of material culture thus constitute configurations of meanings which have to be read at certain levels of interpretation" (Reichel-Dolmatoff 1987: 78; see also Reichel-Dolmatoff 1985, 1: 224). These configurations of meanings, or clusters of symbols, interpenetrate, and are overlapping rather than discrete. Any individual element may appear in more than one cluster, and every important supernatural has a wide

range of responsibilities. Which role he plays at any particular moment depends on context. In this setting, the search for a single, definitive meaning is doomed to fail, and mythology becomes a dark pool in which each investigator sees only a reflection of himself. This view brings me closer than I would like to the postmodern position that "Truth" is both personal and context-dependent and that all interpretations have validity of a sort. This may well be the Kogi position too. To quote Reichel-Dolmatoff again, "the Kogi easily switch back and forth between levels of interpretation or images of different categories, and often enough the lack of, what we would call, consensus, and the little importance attached to it by the Kogi, is disconcerting" (Reichel-Dolmatoff 1990: 16).

Despite these difficulties, one can recognize certain configurations of symbolic meanings, even when names cannot be given to the principal figures. One of these configurations links gold, sun, light, a fertilizing (male) solar energy, and priestly control over these things. The Kogi refer to the Sun as Mama Nyui; and the same root is found in the word for gold, *nyuiba*. Gold objects placed at the center of the temple can be directly fertilized by the rays of the sun (Dussán de Reichel 2000: 92), and at certain times of the year Kogi priests gather their ritual artifacts of gold and *tumbaga*, place them outdoors on a special mat, and then expose them to the full light of the sun in order to recharge them with a fertilizing cosmic energy that will be transmitted to the priests and, through them, to all the participants in the rituals (Reichel-Dolmatoff 1981: 26). In the same vein, Matthew Looper (1996: 121, 124) notes that Mama Nyui is a male archetype and a source of fertility. The role of the priest is to harness Mama Nyui's fertilizing rays for the good of the community, and to ensure that the sun follows its ordained course throughout the year. In the modern Kogi context (and quite possibly also in the prehistoric Tairona world), gold does not represent just economic wealth, but also *supernatural* capital, cosmic power, and the knowledge of how to make use of it.

Embossed Plaques

The finest objects of repoussé gold are plaques, often of high-quality gold (Fig. 7). The position of the holes suggests that some of them were probably suspended as breast ornaments, while others, with central holes, may have been sewn onto clothing or headbands.

The principal image on all these plaques—a male whenever the sex is clearly indicated—is a displayed figure wearing a feather headdress, a belt, ligatures, and a selection of jewelry: ear spools, a "butterfly" nose piece, and either a pectoral disc or a bird pendant. He is seated with his feet drawn up on a stool that has serpent head projections of the kind also depicted in clay and stone (Bray 1978: no. 138; Reichel-Dolmatoff 1986: fig. 162). Sometimes he is carried on a bar, or in a litter suspended from a bar, by smaller attendants. He may also hold a pair of box-shaped or bird-shaped rattles (Fig. 7, nos. 4, 5).

The central icon is usually identified as Father Sun. The basis for this identification (Reichel-Dolmatoff 1988: 149–158; Looper 1996: 113–114) is the Kogi belief that the sun is carried from one solstice position to another on the shoulders of two of the sons of the Universal Mother, Seokukui and Seizankwa, who represent the opposed and complementary principles of the Kogi universe: east, light, and life (Seizankwa), and west, darkness, and death (Seokukui) (Reichel-Dolmatoff 1987: 96). In the Kogi temple, itself a model of the

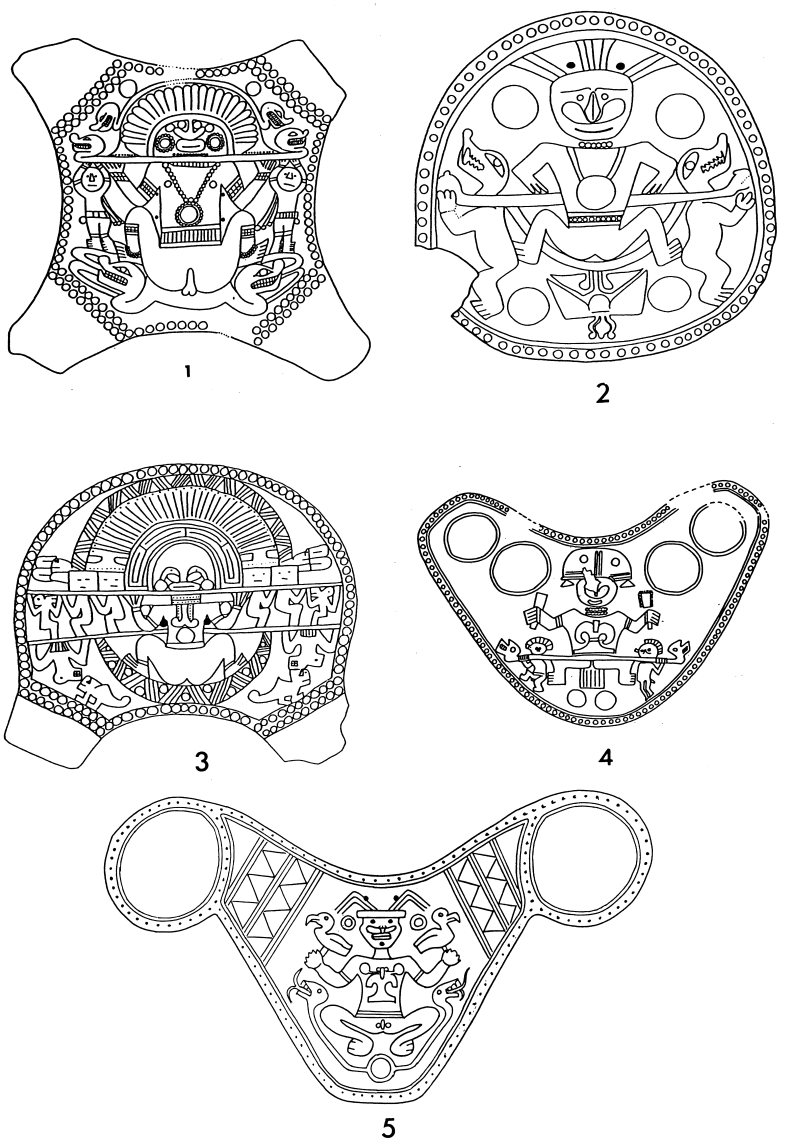

Fig. 7 Classic Tairona embossed plaques (nos. 1–3 after Looper 1996)

cosmos, Seokukui and Seizankwa are represented by two of the four posts that support the roof. The other two posts also represent sons of the Mother, the four creator figures together representing the ancestral founders of the senior Kogi lineages (Reichel-Dolmatoff 1975).

In the Kogi pantheon, there are various suns and several solar figures. Some scholars (for example, Dussán de Reichel 2000: 93) believe the plaque figure represents Serankua or Hátei Nyui (personifications of Father Sun), but perhaps the strongest candidate is Mulkuexe, variously described as either the first or the fifth son of the Mother (Reichel-Dolmatoff 1987: 100). The five sons became the Lords of the World Quarters, with Mulkuexe occupying the central position, or axis mundi, the focal point of the quincunx that represents the

ground plan of the Earth and also of the temple (Reichel-Dolmatoff 1975; 1981: 25). On certain ritual occasions, Kogi mamas sit on stools at the center of the temple, thus representing Mulkuexe's authority. Teiku is one of Mulkuexe's companions. His place is with Mulkuexe at the center of the temple, and Reichel-Dolmatoff suggests that the two may be one and the same deity. Mulkuexe is, above all, a lawgiver who promulgates the Law of the Mother. As Reichel-Dolmatoff (1987: 100) remarks, "The sun is essentially an administrator, a timekeeper, whose regular motions, from a geocentric point of view, constitute the model for human behavior throughout the year."

The root *mul* has a meaning related to brilliance, light, and the concept of energy, and, as the sun, Mulkuexe wears a gold mask and a huge golden pectoral disc (Reichel-Dolmatoff 1981: 25). Identification of the plaque figure as Mulkuexe may also explain the bats that hang beneath his litter (Fig. 7, no. 2) or from his carrying bar (Fig. 7, no. 3). The Kogi word for bat, *nyuízhi*, may be analyzed as *nyui* (sun) + *zhi* (worm, or penis) (Looper 1996: 118). The bat also has solar associations in the Kogi myth of Sintana and Mulkuexe (Reichel-Dolmatoff 1985, 2: 31–36; Legast 1989). Contradictory versions of this story exist, but one of them recounts that in early times, "when there was no sun," Mulkuexe and his brother Sintana were always quarreling with each other. Mulkuexe was a dangerous character and a seducer of women. He also had a great deal of gold and was like a malevolent sun who enjoyed burning the earth with his light. By a series of strategems, Sintana tricked Mulkuexe into having an incestuous relationship with his own son, transformed into a woman, and from that union came the bat, Nurlitaba, the first animal in creation. Mulkuexe was eventually sent up to the heavens, where he became truly the Sun, contracted unsuccessful marriages to an adulterous toad "all of gold, who served the sun as a bench when he received visitors," and then to a snake, before finally settling down with Moon.

By selecting, or emphasizing, other elements from the Kogi belief system, it is possible to construct several different and often overlapping identities for the plaque figure (see, for example, Zuidema 1992), though all of them incorporate solar attributes. Following a slightly different path from the one here, Tom Zuidema sees Sun the lawgiver as the model for an earthly ruler, which leads him to identify the plaques as symbols of rulership. Whether these Tairona rulers were caciques or naomas or both can only be guessed at, but given the ways in which access to the divine and supernatural world legitimized the power of pre-Hispanic caciques, Zuidema may well be right.

Masked Human Figures

The rarest and finest cast objects, the most "elite" items of Tairona goldwork, are human figure pendants, either free standing (Figs. 8, 9) or attached to bird-shaped back plates (Mason 1931–39: pl. CL, left). Similar figures, with both human and bat faces, are represented on gold bells, presumably from dance costumes, and are seated on top of bird heads on certain eagle pendants (for example Reichel-Dolmatoff 1988: figs. 26, 47; Labbé 1998: fig. 95). As a group these humanoid figures are colloquially called caciques. In the professional literature they have been labeled bat men (Legast 1987: 85–99) or shamans (Reichel-Dolmatoff

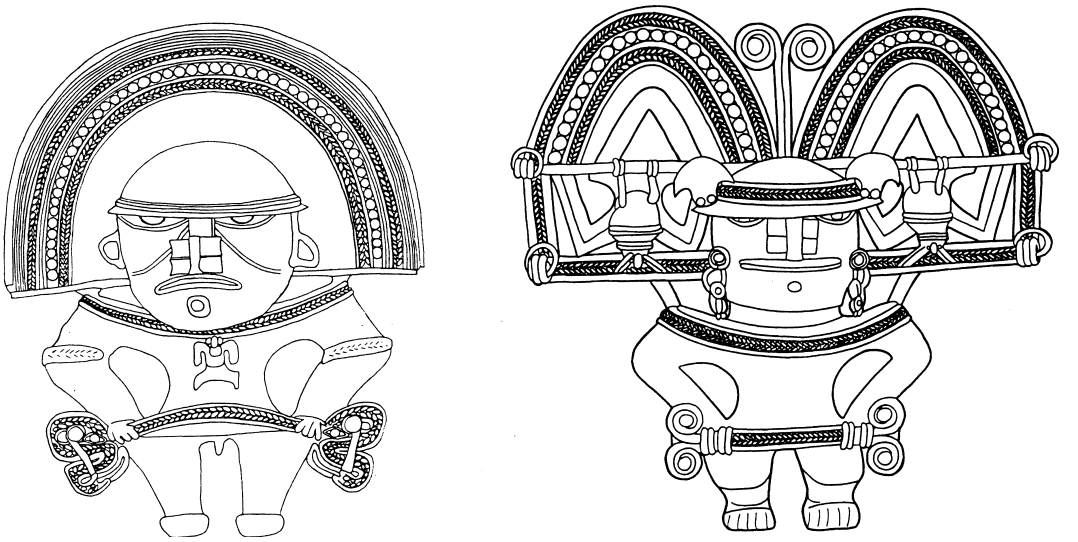

Fig. 8 Classic Tairona human figure pendants (after Looper 1996)

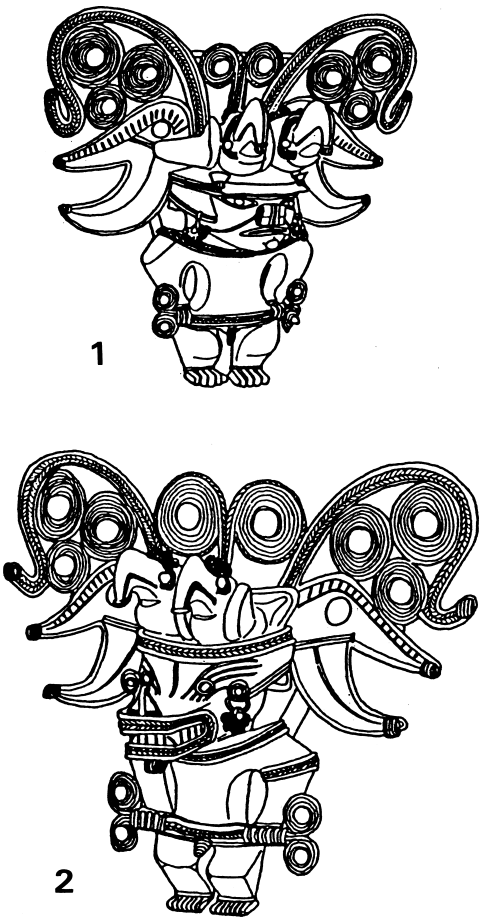

Fig. 9 Classic Tairona human figure pendants (after Plazas 1987)

1988: 144). The first of these two labels is simply a descriptive shorthand, and the second identification seems unlikely, since Reichel-Dolmatoff elsewhere insists that Kogi mamas are not shamans, but rather an institutional priesthood (Reichel-Dolmatoff 1990: 3).

On the basis of their headdresses, three variants of the figure can be identified. The most common and most basic form wears a crescentic head ornamant (Fig. 8.1); the more elaborate versions have either a divided headdress (Fig. 8.2) or a complicated device incorporating birds and bird heads (Fig. 9). It is open to debate whether these variants represent different but closely related personages or three manifestations of the same one.

What unites them is a set of regalia not found on other icons or depicted on burial urns and ceramic vessels. These identifying items are a braided headband, a visor (usually with two or three mushroom-shaped protuberances), double bars through the nose (as opposed to the more usual rings, crescents, and "butterflies"), a labret, ear rods and/or danglers, a braided band across the shoulders, and a braided belt. Many of these figures also hold horizontal bars with double spirals, or occasionally serpent heads, at both ends. In some instances the "bar" is clearly a belt, and the double spiral elements are grasped separately in the hands. One of these figurines wears a bird pendant (Fig. 8.1), but this is the only example I know thus far. The find spot is reported as Jirosaca, and the archive of the Museo del Oro indicates that it may possibly have been associated with two more gold items—a bird pendant and a human figure wearing a divided headdress from which hang bats (Sáenz Samper 2003).

Anything made of organic materials has disappeared from the record, but the occurrence of full-sized nose bars and visors made of gold suggests that these are actual Tairona costumes worn by real people (see, for example, the grave lot from Minca in the appendix). Reichel-Dolmatoff (1987: 95) has suggested that the visors depicted on the pendants represent the tortoiseshell visor worn by Seizankwa, the Lord of the East, though Nicolás de la Rosa notes that rich Indians wore diadems of tortoiseshell, and poor ones of plaited palm "made in a semicircle and placed about the head to protect the eyes from the heat of the sun and to retain the hair" (Nicholas 1901: 612).

Whenever the sex is depicted, the figure pendant is male and wears a penis cover and a waist cord. Many of these personages—perhaps all of them—are masked. Anne Legast (1987; 1989) gives compelling reasons for identifying the nonhuman faces as bats and discusses the multiple role of bats in Kogi mythology, their links with menstruation and fertility and with Sun (Muluku), Death (Heisei), and various other supernatural personages. Bats also hang from the side pieces of the divided headdresses. Other masks represent big-beaked birds (Legast 1987: fig. 107) or a combination of bat and bird wearing the same regalia as the other figures (Reichel-Dolmatoff 1988: pl. 238: Mason 1931–39, pl. CL, left). The bat-bird mask is also represented on Tairona clay ocarinas (Reichel-Dolmatoff 1986: fig. 164).

The masked individuals in present-day Kogi ceremonies represent the sons of the Universal Mother (natural and cosmic forces, the Mothers, Fathers, and Dueños) and are her messengers or agents on Earth (Reichel-Dolmatoff 1985, 2: 255). Despite the enormous variety of masks and ritual costumes represented on the clay ocarinas (cf. the range of modern costumes described by Preuss and Reichel-Dolmatoff), Tairona goldsmiths made only a limited selection from them, and there is no way of knowing which individual, or individu-

als, is the icon of the figure pendants. Rather than trying to determine who the figure is, it may be more advantageous to look at the ideas behind the representations.

Kogi masked dancers do not simply "become," or transform into the personages whose costumes they wear. The relationship is more complex and subtle (Reichel-Dolmatoff 1985, 2: 94–95). By wearing the mask, the dancer becomes "in agreement with" the deity, or dueño, becoming his brother, or his equal, and, as a member of the the deity's "family," is in a position to mediate between the community and the ancestral or supernatural world. In this context, one might guess, even if it cannot be proved, that gold pendants representing masked figures served to establish connections between humanity and the cosmic or supernatural forces, had a protective role, and at the same time reinforced the status of those members of society who had knowledge of the traditions and were allowed to wear the masks.

A Kogi View of Tairona Gold

Given the degree of continuity of ritual practices from pre-Hispanic times to the present, one way of resolving these ambiguities might be to ask the Kogi themselves who these images represent and what they mean. This has never been systematically attempted, though in conversations with Legast a Kogi mama identified one of these figures as a god (name unspecified), dancing and wearing a mask (Legast 1987: 96). Alan Ereira (1990) showed Mama Valencia, a respected Kogi priest, a series of original and replica gold objects and recorded his comments. The breastplates and wrist bands were explained as dance regalia:

> These are *haga*. They wore them to dance with, they wore them around their necks and wrists, when they danced to call the rains and to bless the trees and rivers. When you want to speak to the ancestors you wear these *haga*. (Ereira 1990: 170)

The personage in Figure 8.1, was said to be a vampire bat, a costume worn by the mamas; other figures represent the sons of the Universal Mother. One of the most elaborate of all Tairona images (Fig. 9.2) was identified as Namsiko, one of the world-creating sons of the Mother. The whorls of his headdress symbolize eight of the nine "worlds" or levels of the Kogi cosmos, and the figure itself symbolizes the missing (middle) world—the one in which we live. Mama Valencia further explained,

> Namsiko is a chief. The birds, the snakes, the jaguars [the ubiquitous animals of Tairona iconography], they're all like the vassals of Namsiko. He was the chief of all the animals. First came the earth, then came Namsiko, and then he was in charge of everything. When they first started to make gold, Namsiko was there making the pots to house the gold. (Ereira 1990: 166)

The birds on the headdress were described as condors. In one version of Kogi cosmology, Namsiko and Sintana hold up the eastern ends of the two beams that support the cosmos (Reichel-Dolmatoff 1985, 1: 225) and like any other Dueño or Father, Namsiko today has his own dance mask (ibid., 2: 132–133).

Namsiko's pots are part of a chain of associations that links the gold figurines with the golden animals, with the Tairona practice of caching ritual objects, and with the Kogi belief that, from the time of creation, everything has its Mother, Father, or spirit-owner:

> All our gold pieces and stone beads should live in pots, but now they are all scattered. . . . Serankua said that all things should have their houses. We see them as pots but Serankua made them as houses; the Great Mother created all things in their pots. . . . The Mother of the birds was a little bird in gold kept in a jar, the Mother of the jaguar was a little jaguar. All of them lived in their pots, all of them have been taken. (Ereira 1990: 164–165)

The same idea of owners and houses appears also in Ika beliefs:

> The fathers put gold in the mountain peaks.
> These peaks are like houses,
> And as a house is owned by someone,
> And has its occupants,
> So are each of the peaks. (Tayler 1997: 36)

As John Rowe (1946: 316) has remarked in another context, mythology is static only when people no longer believe in it. Today's Kogi and Ika mamas (like the anthropologists who study them) interpret ancient Tairona artifacts in the light of their own 20th-century experiences, and their Truths may be just as subjective, but it is interesting that Kogi comments on the goldwork pick up on certain aspects of the problem that barely figure in the archaeological literature.

Origins of the Tairona Tradition

In 1969 Henning Bischof described a collection of sherds from a pre-Tairona construction fill at Pueblito and linked them with the contents of an exceptional tomb excavated by J. Alden Mason at Nahuange (Bischof 1969a; 1969b). He dated this Nahuange (or Neguanje) phase to approximately A.D. 500–700 on the basis of ceramic cross-ties with Mina de Oro to the west and with the Red-on-Buff wares of the Ranchería to the east. He also recognized that many elements of the Nahuange assemblage were carried over into Classic Tairona. There is now general agreement that Nahuange defines an "early Tairona" or "proto-Tairona" phase.

Subsequent excavations by Jack Wynn (n.d.) at Buritaca, Langebaek (1987a) at Papare, and Augusto Oyuela Caycedo (1986; 1987a) at Cinto and Gaira have confirmed the stratigraphic position of the Nahuange phase—later than the incised and modeled Malamboid styles, earlier than Classic Tairona—and placed it between approximately A.D. 300 and 800–1000. This is in line with the C-14 dates for the earliest "proto-Tairona" goldwork.

In terms of distribution, a string of Nahuange sites is located along the coast, from Ciénega in the west to La Sierrecita, in the Guajira region well to the east of the Tairona

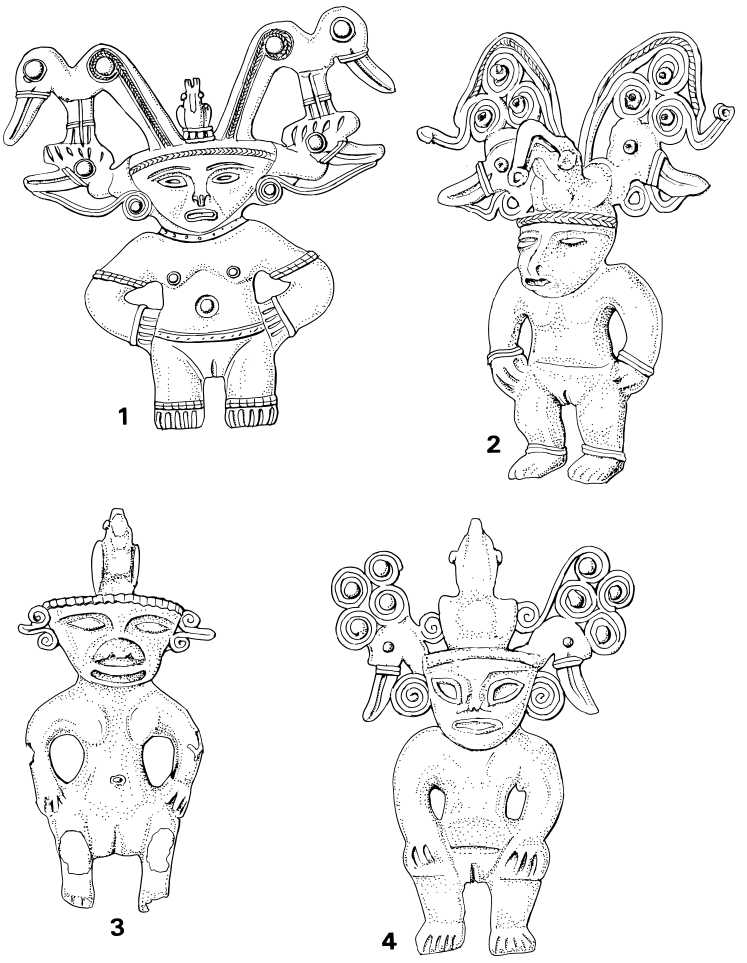

Fig. 10 Early Tairona figure pendants

homeland (Langebaek 1987b; Ardila 1996: 55 and personal communication, 1999). Red-painted sherds that may possibly belong to this period have been reported from Las Animas, 360 meters above sea level on the northern slope of the Sierra (Herrera de Turbay 1985: 100, 105), but on present evidence the Nahuange phase is a littoral phenomenon, occupying precisely the area that the modern Kogi regard as the cradle of their culture (Reichel-Dolmatoff 1985, 1: 254). By the eighth or tenth century, transitional Nahuange-Tairona pottery had appeared at Buritaca 200, at 900 to 1,300 meters above sea level (Oyuela Cacedo 1986a), and the mature Tairona tradition was becoming established.

Gold and stonework of the period also reflect the Tairona elements identified in Nahuange pottery. Mamorón, near Gaira, has stone roads, house-rings of undressed boulders, urn burials, and shaft-and-chamber tombs (Oyuela Caycedo 1987a). From El Chicharrón, on the upper Río Córdoba, came a Nahuange-style offering pot containing a stone mask (Reichel-Dolmatoff 1986: 241, fig. 173). Ana Mariá Falchetti (1987; 1993) has identified a corpus of gold items that are stylistically intermediate between the earliest Caribbean-Isthmian goldwork (the Initial and International Groups of Bray 1999) and mature Tairona metalwork (see also Fig. 2, nos. 1–4, and Gairaca *d* in the appendix).

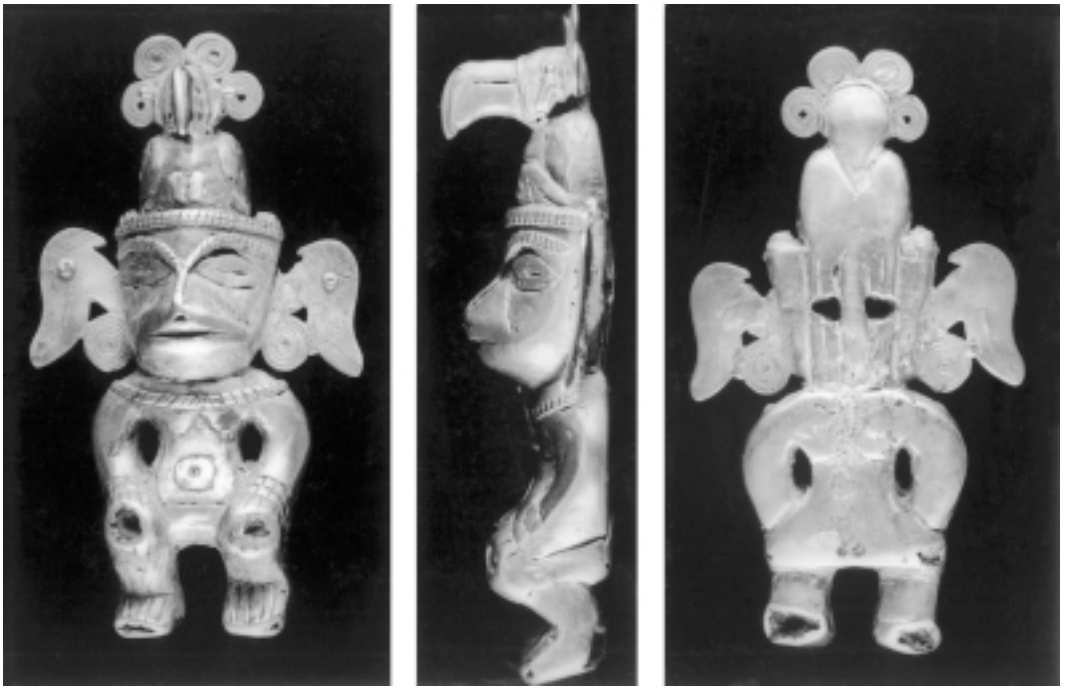

Fig. 11 Tumbaga figure pendant from the Nahuange Site 1 tomb. H. 9 cm (photos by Stuart Laidlaw).

Early, pan-Caribbean, categories of goldwork include eagles, double-spiral pectorals, and animals with recurved tails; other items—disks, winged nose pieces, embossed crescentic plaques, and figurine pendants—are prototypes of Classic Tairona forms. The figurine pendants (Figs. 10 and 11) have complex headdresses incorporating spirals, lateral projections, and big-beaked birds. They are clearly ancestral to Classic Tairona forms, though they are less detailed, have prognathous non-Tairona faces, and are consistently female, in contrast to the male-dominated Tairona iconography. On the basis of headdress shapes, these figurines can be arranged in a typological series (not yet supported by contextual evidence), beginning with simpler, more pan-Caribbean types (Fig. 10. 3) and progressing, by way of more elaborate ribbons and whorls (Fig. 10. 1–2, 4), into mature Tairona categories. Radiocarbon dates have been obtained from the cores of two of these figurines. The figurine from the Nahuange tomb (Fig. 11) was dated A.D. 310 +/- 70 (OxA-1577), a century or two earlier than Bischof's proposed date for the grave; the other pendant (Fig. 10. 1) is stylistically further down the road toward Classic Tairona and gave a date of A.D. 1035 +/- 90 (OxA-1528). Between them, these two C-14 dates approximately mark the beginning and end of the Nahuange period.

An early beginning for proto-Tairona metalwork is confirmed by three more C-14 dates on core material from items in the Museo del Oro (Plazas 1998: 51–53). A bird pendant, said to be from Rio Palomino and similar to those in the Nahuange tomb (cf. Fig. 12), was dated A.D. 480 +/- 40 (Beta 97375); a rather different form of bird pendant yielded A.D. 210 +/- 90 (Beta 108844); and a nose piece with lateral prolongations was dated A.D. 130 +/- 40 (Beta 108840). All dates

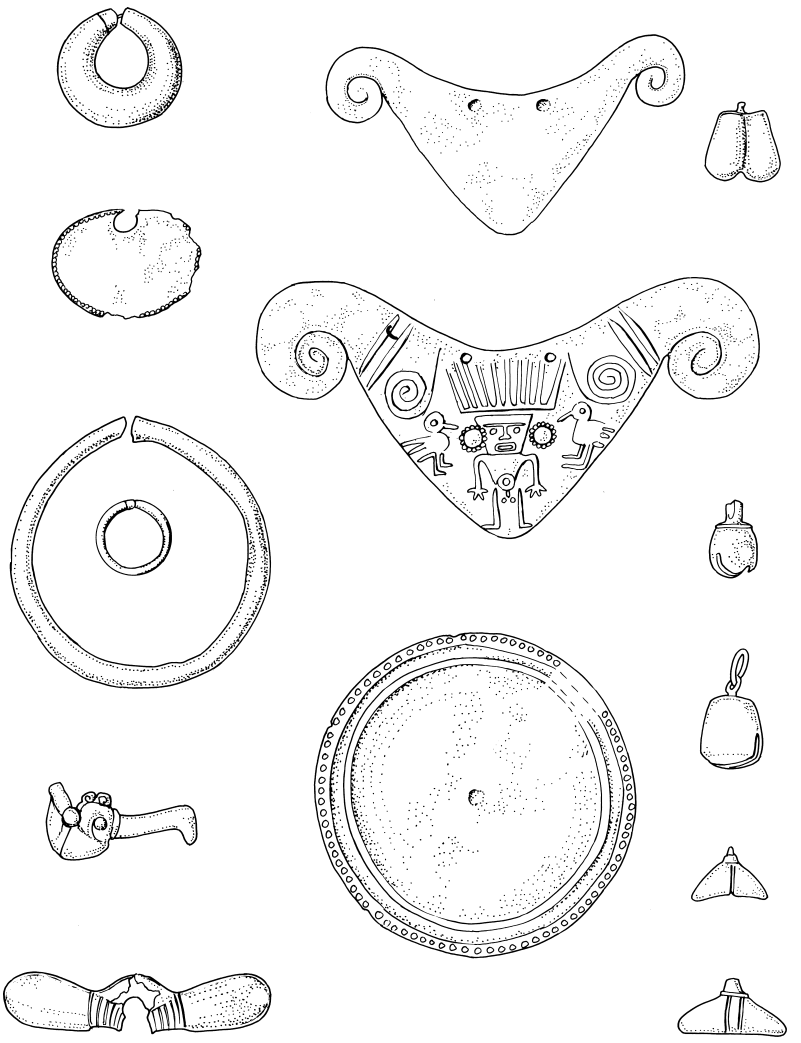

Fig. 12 Metal items from the Nahuange Site 1 tomb (redrawn from Mason 1931–39)

are uncalibrated. The earliest dates are a little older than expected, but the general fit is good. Current information on the Nahuange phase suggests that the Tairona-Kogi tradition emerged during the early centuries after Christ with roots in a cosmopolitan (and perhaps multiethnic), coast-oriented, and essentially "Caribbean" culture.

The Nahuange tomb

This grave, excavated by Mason (1931–39: 32–36) at Nahuange Site 1, is the type-site for the phase as a whole and is still the only locality where a range of artifacts in all media has been excavated by a professional archaeologist. The tomb consisted of a low circular mound,

14 to 15 meters in diameter, with a retaining wall and, in the center, a rectangular grave lined with stone slabs and sealed by capstones. The soil of the mound contained bones and offerings. Teeth and fragments of bone were found in the fill of the tomb and in some of the pottery vessels, but it proved impossible to establish how many individuals were interred there. Mason's descriptions indicate some kind of multiple burial, but it is not clear whether one corpse was more significant than the others.

In total, Mason found more than 8,000 stone beads of various colors, winged pendants, artifacts of nephrite and other jadelike stones, gold jewelry, shell objects, resin pendants, and more than 30 pots. These included 19 or 20 cache vessels, some with lids (there is an ambiguity in Mason's report). Of these, 3 vessels were empty, 3 contained only fragments of bone, 5 had only beads and stones, 1 contained three little pots, and the remaining 3 had gold and other artifacts. All categories of goldwork except the beads are illustrated in Figures 11 and 12, though some were represented by more than one example. Most of these gold objects (22 pieces of jewelry, 2 fragments of thin sheet, and a mass of beads) were found together in the largest vessel and may perhaps have belonged to a single elite individual. Other items were found in the loose soil of the grave. A similar pattern of cached items and loose artifacts was present in the mound. One lidded vessel from the mound held a gold ornament of thin metal and a gold ring. Several other pots with gold ornaments and beads were later excavated from the mound by a local cattleman, and one of these items is a typical early Tairona raised-tail animal (Mason 1931–39: pl. CXLVIII, 9). Because of the way Mason's report is structured, it is not always possible to reunite vessels with their contents or to match his listings with the artifact descriptions and illustrations.

The concentration of prestige items suggests that ranked, or chiefdom, societies had emerged in northern Colombia during the early centuries after Christ. In its form and construction, Nahuange is a Tairona tomb and belongs to the elite end of the range (compare, for example, Pueblito Site XXIX in the appendix). More significant, Nahuange also reflects Tairona patterns of behavior and the philosophical concepts that lie behind them: caches in pots (some of them obvious prototypes for the Tairona treasure jars but decorated with non-Tairona incised motifs or with red-painted Ranchería designs), the symbolism of beads, and the deposition of offerings in the soil around burials.

As Bischof has demonstrated, the pottery from the tomb looks forward to Classic Tairona, but it also draws on earlier influences from all over Caribbean Colombia. The same is true of the gold and stone artifacts. The tubular rings and nose ornaments, disks, bells, and crescentic plaques are essentially Tairona, but the animal figure from the mound links this assemblage to the early goldwork from the Sinú region and the Caribbean lowlands in general (cf. Falchetti 1995: figs. 55, 59). The human figurine (Fig. 11) also has its roots in the same area, where the spiral ear ornaments and the heads of big-beaked birds occur on early Sinú eagle pendants and face bells (Falchetti 1995: figs. 35–36). In more developed forms, these bird motifs continue into Classic Tairona iconography (Fig. 9).

Mason also excavated a number of artifacts made of nephrite and other jadelike minerals. These pieces comprised several winged, or bar, pendants (Fig. 13), a bead, an object in the form of a jaguar tooth, and six human figure pendants (Fig. 14). Like the metal figures of the

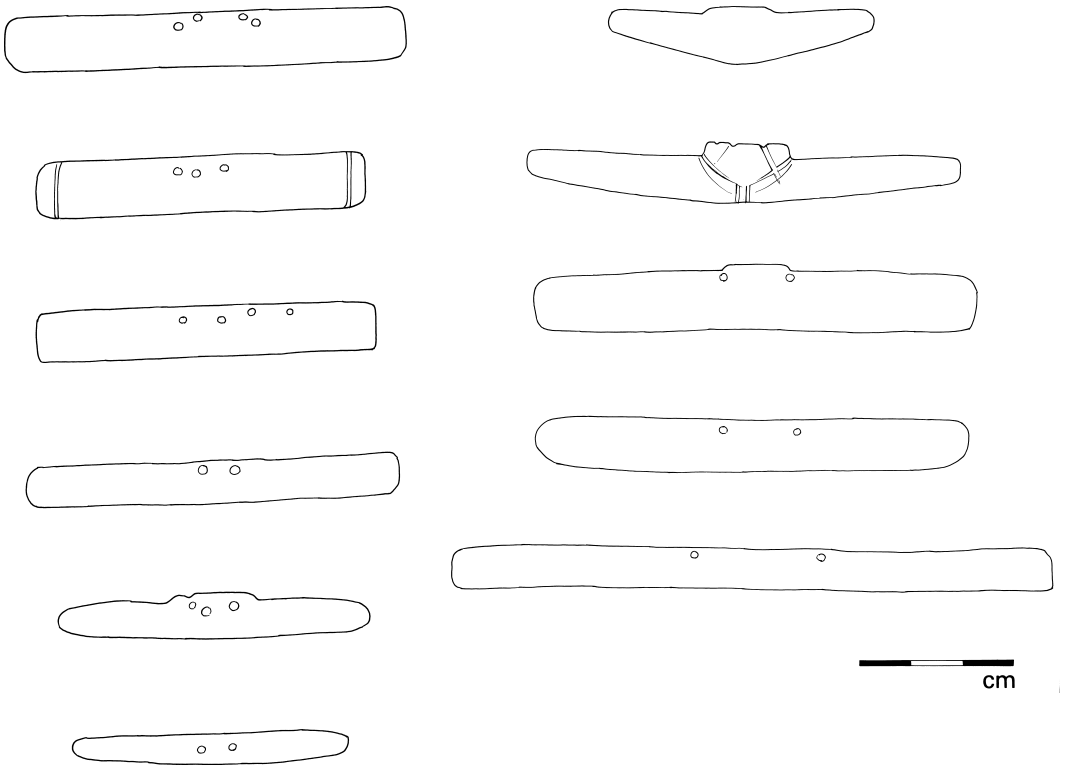

Fig. 13 Sone pendants from the Nahuange Site 1 tomb (redrawn from Mason 1931–39)

Nahuange period, whenever the sex is clearly indicated, it is female. Holes at the shoulders indicate that the figurines were originally designed to hang upright, but several of them have extra holes on one edge, allowing them also to hang horizontally; some have been split vertically to convert them into bar pendants. All had been well used before burial, and only half of each split figure was deposited in the tomb. Unprovenienced finds of this type (Mason 1931–39: 191; Reichel-Dolmatoff 1986: 176; Sáenz Samper and Lleras Pérez 1999; photo 60) show that the figures from Nahuange are not unique. A single split figure pendant (though made of softer slate) was excavated from one of the largest Classic Tairona structures at Pueblito (Fig. 14. 5, and Mason 1931–39: 191).

The Tairona and the Macro-Chibchan World

In his earlier publications, Reichel-Dolmatoff (for example, 1965: 157–158) argued that the Kogi do not fit easily into any South American cultural pattern and that many of their cosmological and philosophical concepts indicate migration from Mesoamerica in pre-Hispanic times. Because of this conviction, he did not investigate the parallels (such as the layered universe of the Kuna) between Kogi beliefs and those of their Chibcha-speaking neighbors. In later publications, Reichel-Dolmatoff modified his diffusionist views, while continuing to accept the Mesoamerican and Costa Rican connections (Reichel-Dolmatoff

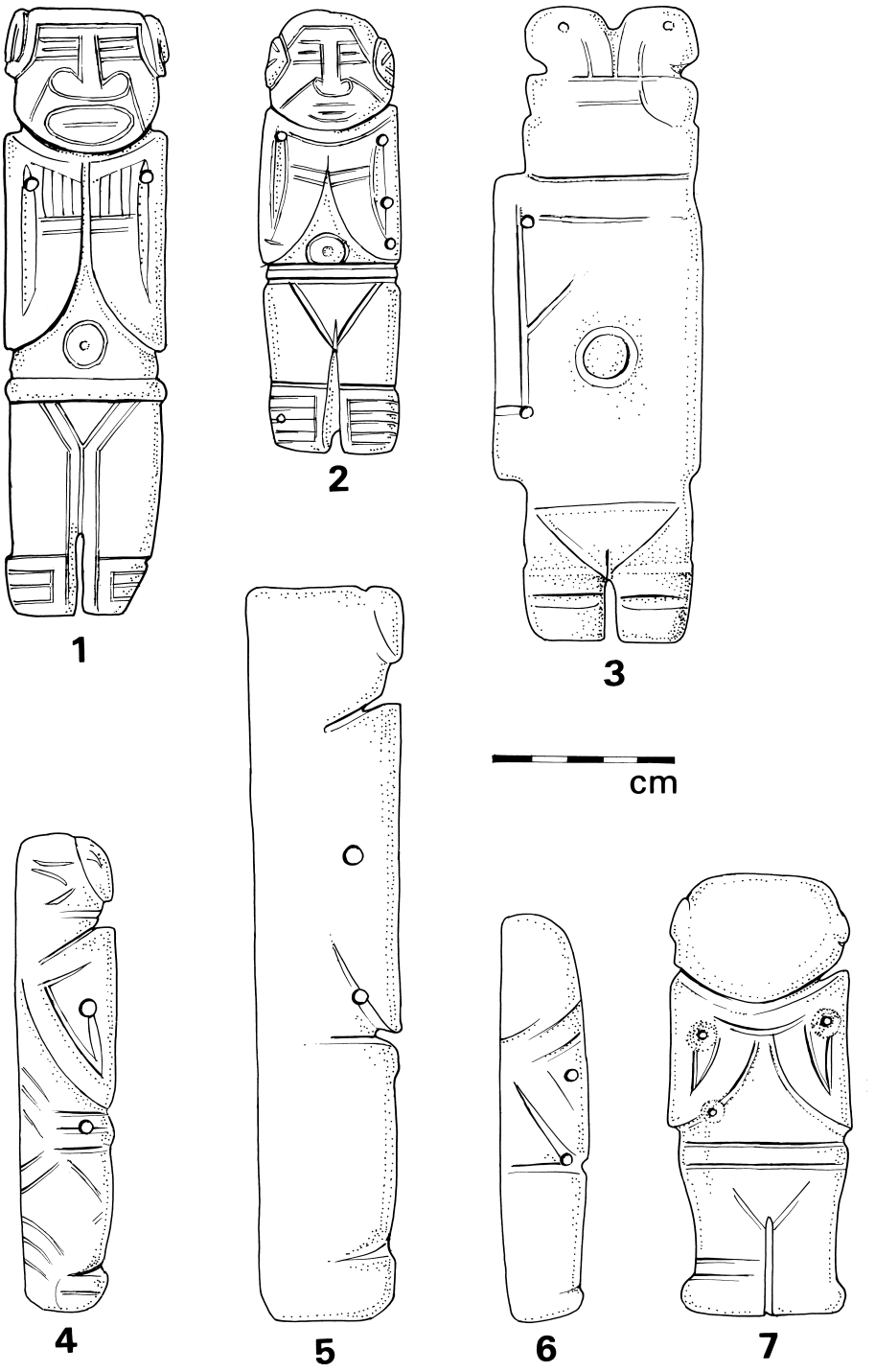

Fig. 14 Stone figure pendants from the Nahuange Site 1 tomb (nos 1–4, 6–7) and from Pueblito Site 31 (no. 5) (nos. 1–4 redrawn from photos in the archive of the Field Museum, Chicago, 1954, negatives A94874–94850; nos 5–7 redrawn from Mason 1931–39).

1986: 198). His more recent position, that close contacts and mutual influences linked the regional cultures of Costa Rica, Panama, and Caribbean Colombia, fits much better with the archaeological evidence (Bray 1984: 322–337). It can now be demonstrated that Classic Tairona culture developed in situ and did so at a time when the region was open to foreign influences from many parts of the Isthmus and northern South America (Bray 1984; Langebaek 1989–90; 1992).

Most of the peoples of the Isthmian-Colombian region spoke languages of the Chibchan family at the time of contact, and this has led some archaeologists (Bray 1999; Zamora and Hoopes, in this volume) to wonder whether the cultural similarities indicate not only intergroup contacts but also an underlying Chibchan "worldview" at the intellectual level. If so, many Tairona-Kogi beliefs and attitudes may have their equivalents elsewhere. There is still no conclusive evidence, but the origins of Tairona culture must be considered within the context of the Macro-Chibchan debate and with a focus on the centuries between A.D. 300 and 800.

Looking outwards from Colombia and toward the Isthmus, we can see a pattern that is not easy to explain. The Caribbean lowlands of Colombia (Sinú and Urabá) and the Chocó on the Pacific side have obvious cultural ties with adjacent areas of Panama (Bray 1984; Cooke 1998; Falchetti 1993; Sáenz Samper and Lleras Pérez 1999). In contrast, the closest archaeological parallels for Nahuange and for the Tairona assemblage in general are not with the southern Isthmus, but with the cultures of Atlantic Costa Rica. Perhaps, as Ifigenia Quintanilla has suggested (personal communication, 1999), connections by sea as well as by land should be investigated. In the words of one Costa Rican specialist:

> After A.D. 500, drastic shifts began to occur in Costa Rican Precolumbian cultures. Circular houses became the norm and were indicative of a probable shift in cosmology or "world view." New ceramic styles including resist painting proliferated; tomb forms and burial customs changed; cobble-paved roads within and between sites appeared; and metallurgy supplanted jade carving as the principal supplier of political and religious badges of power and authority. Gold replaced jade as the most symbolic material. All these traits appeared earlier in, and are typical of, northern South America, but the process by which these shifts to Costa Rica took place is not yet clear. (Snarskis 1998: 90)

This view starkly contradicts Reichel-Dolmatoff's ideas about the main direction of flow, and many aspects are indeed far from clear.

While some specialists would be less dogmatic than Michael Snarskis about many of these "South American" traits, in one respect his argument is unassailable: The spread of metalworking from Colombia to the Isthmus (represented by the Initial and International Groups) is documented elsewhere (Bray 1992; 1999), and the distribution maps show a marked concentration of these early items in Atlantic Costa Rica. This area, too, is one of the points where the Mesoamerican and Chibchan worlds came into contact (Bray 1977: 390–392). At Guácimo, for example, Maya stonework, Initial and International gold objects in the Urabá substyle of Colombia (Uribe 1988), and locally made jadeite versions of these (espe-

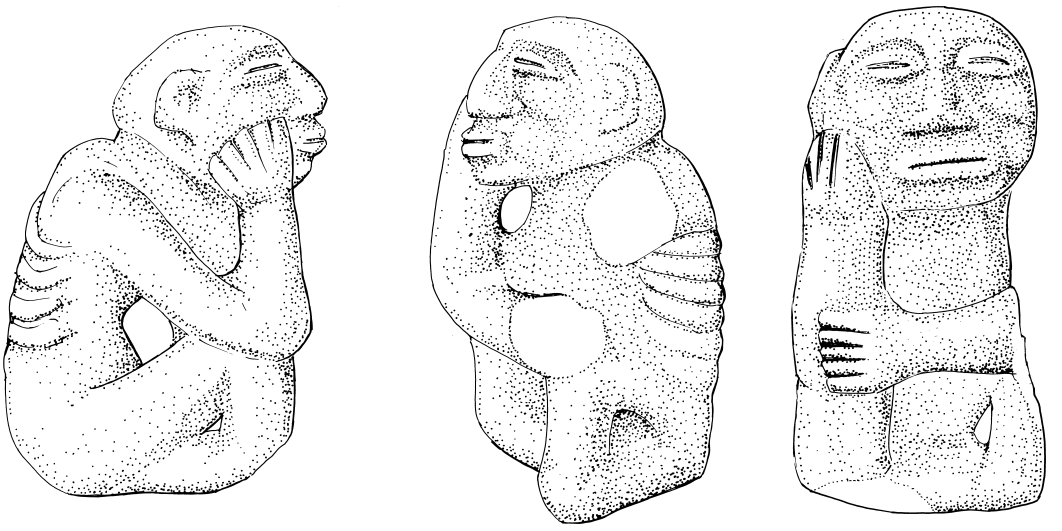

Fig. 15 Stone sculpture from the Quebrada de Valencia, between the Guachaca and Buritaco Rivers, Sierra Nevada de Santa Marta. H. 24.5 (redrawn from Dussán de Reichel 1967).

cially animals with raised tails), occur in the same cemetery with pottery dated circa A.D. 400–600 (Stone and Balser 1965). In Costa Rican terms, this coincides with the few centuries during which gold and jade objects were used side by side (Guerrero 1998), as they were at Nahuange at more or less the same time.

Apart from metallurgy, most of the traits shared by Costa Rica and the Tairona zone are either general (circular stone house-rings, paved roads, cist tombs and mounds, jade carving) or have a wide distribution throughout the Isthmus (winged pendants, small anthropomorphic and zoomorphic carvings in colored stones, eagle pendants, masked human figures and composite creatures of gold [Bray 1999: 44]). The case for a special relationship would be stronger if Costa Rican export pieces could be indentified in Colombia, but there are very few items from the Tairona zone that may indicate direct links. An eagle pendant of gilded tumbaga from Minca is an undocumented find and could have come from anywhere in the Veraguas–Gran Chiriquí region of the Isthmus (Langebaek 1989–90, fig. IXb; Sáenz Samper and Lleras Pérez 1999: photo 67). The stone sculpture in Figure 15 is another casual find, from the north slope of the Sierra Nevada, and, as Dussán de Reichel (1967) points out, has close similarities with the *sukia* figures of central and southeastern Costa Rica (though the coca bulge in the left cheek suggests manufacture in Colombia rather than the Isthmus).

There are, however, two very specific connections between the Tairona region and the Atlantic Watershed of Costa Rica, though the chronological control is so poor that we cannot say where these traits originated. The first of these similarities is the treatment accorded to jade figure pendants. Certain pendants from both areas have holes that allowed them to be hung vertically or horizontally (compare the Nahuange examples with, for example, the Costa Rican axe god from La Fortuna, another Atlantic cemetery with Maya connections [Stone and Balser 1965: fig. 4b]). Still more evocative is the custom of splitting

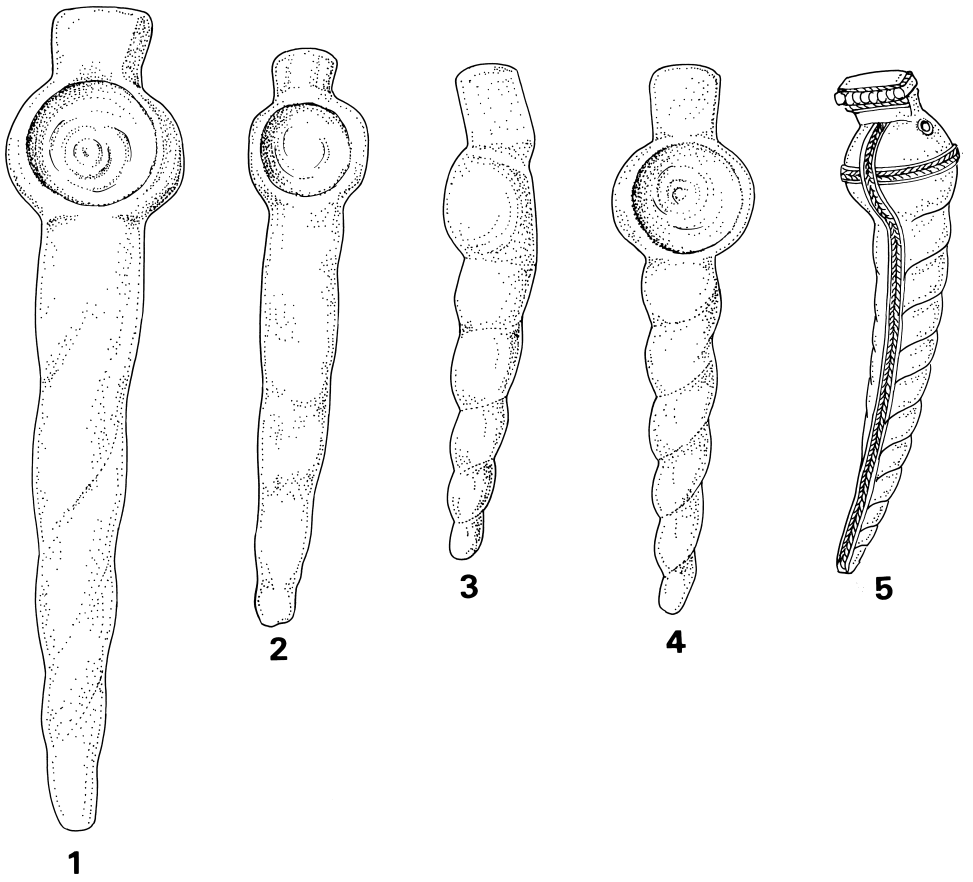

Fig. 16 Spoon-shaped objects: nos. 1–2, clay, from Atlantic Costa Rica (redrawn from Stone 1977: fig. 212b); nos. 3–4, stone, from Colombia; no. 5, gold, from the Tairona region (after Plazas 1987).

jade figures into two vertical halves, converting the halves into horizontal bar pendants, and eventually depositing just one portion of the figure in the tomb. Split-figure pendants occur at Nahuange and Pueblito (Fig. 14) and in the jadeworking zones of Costa Rica, but they are unknown elsewhere. The use of jade may simply reflect availability of the raw material, but this unusual pattern of behavior suggests shared beliefs or rituals and goes beyond mere typology.

Another artifact that could hardly have been invented twice is illustrated in Figure 16. These spoon pendants were made of pottery in Atlantic Costa Rica (nos. 1–2), where they are thought to belong to the Zoned Bichrome period (Stone 1977: 158). One example was found by a pothunter at La Fortuna, though its association with the Zoned Bichrome cemetery cannot be proved (Doris Stone, personal communication, 1981). In Colombia they were carved from stone (nos. 3–4), and their distribution appears to cluster around Dibulla, just beyond the eastern frontier of Classic Tairona territory (Mason 1931–39: 205–207). The Colombian items are casual finds, but none of these "spoons" has ever been excavated in a Classic Tairona context. It is possible, therefore, that they belong to the Nahuange period,

which would bring them into line with their Costa Rican counterparts. They may also be prototypes for later Tairona gold artifacts (Fig. 16.5).

I have (Bray 1999) suggested that archaeological changes recognizable in several regions of Colombia around A.D. 600 might be linked with the arrival of Chibcha speakers from the Isthmus, among them the ancestors of the Tairona. Adolfo Costenla Umaña believes that the linguistic split between the Isthmian and Colombian branches of Chibchan occurred much earlier than this, in which case Chibcha-speaking groups were already well established in Caribbean Colombia, and the interactions described above took place between ethnic groups that at one time shared a common history (Costenla Umanã 1995; Sáenz Samper and Lleras Pérez 1999: 84–87). How much of the Tairona belief system goes back to that distant period is a matter for speculation and is a question that will not be answered by comparing artifact types. To complement the archaeological data, we need an extension to Colombia of the genetic and linguistic programs already carried out in the Isthmus (Barrantes et al. 1990), and more comparative work on the mythologies and cosmologies of the surviving Chibcha-speaking groups. Time for this is running out, and much of this information is already lost.

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Appendix: Documented Finds of Tairona Metalwork

Pueblito

a. Site VI (Mason 1931–39: 70)

Buried inside a large house-ring were a black jar, a broken jar containing a gold "ornament," a copper "whistle," and many cornelian beads. Nearby, in loose soil, was another gold bracelet, more cornelian beads and a piece of thick bone. The nature of the entire deposit is unclear.

b. Site XXIX (Mason 1931–39: 90–93)

A large, stone-lined grave with a capstone, located on a terrace. Contents: a jar with 15 winged plaques of stone; a jar containing many stone beads, 3 gold bracelets, and 1 copper bracelet; a jar with many stone beads, pottery ocarinas, and 3 "fine stone ornaments"; a vessel with bits of copper wire, perhaps bracelets; a vessel with shells, fish vertebrae, 2 small limestone images; a pot with stone beads; a vessel with red and green stone beads. Elsewhere Mason mentions a bird pendant of fine gold from this grave, though this does not appear in his excavation description (p. 262, pl. CXLVII, 6).

c. Site XXXII (Mason 1931–39: 103)

A small stone-lined grave with an empty olla. "Scattered through the soil" were stone beads, stone axe heads, and "several gold ornaments." One of these is a broken frog (p. 260 and pl. CXLVII, 2); another is a penannular ring (p. 252). From Mason's description, and from the objects found in the soil (but not in the grave itself), the round structure on the terrace may have been ceremonial rather than domestic. Miscellaneous finds in the soil included a pair of metal ear ornaments (pl. CXLIII, 3, 5) and what may be an anchor ornament (pl. CXLVI, 7).

d. No Number (Reichel-Dolmatoff 1958: 73)

From a stone ring already rummaged by treasure hunters was excavated a penannular tubular bracelet of rolled sheet metal, beside which were 2 little embossed disks of fine gold, 3 tubular beads of sheet metal, and a gold cap from a labret (Fig. 1.16). Associated with these were many sherds, and also stone items, including a monolithic axe.

Jirosaca (Reichel-Dolmatoff 1958: 72)

From a sealed offering vessel (context unknown) came the following items of "gilded copper": a plaque with an embossed face, 18.5 cm high (Fig. 3.1); a large, plain hammered (?) armband 6.9 cm long (Fig. 3.2); a nose piece, 11.2 cms wide (Fig. 3.3); a large convex disk with a border of embossed dots, 14.5 cm in diameter (Fig. 3.4); 2 smaller discs with zigzag decoration, 9.4 cm in diameter (Fig. 3.5). Most of these items had holes for suspension or attachment. This deposit may have been a cache rather than a burial offering.

Gairaca

Items a–f derive from the Herbert Huntingdon Smith expedition of 1896–98. His finds are now in the Carnegie Museum of Natural History, Pittsburgh. Some of his specimens were illustrated by J. Alden Mason (1931–39). Ellen FitzSimmons (n.d.) has reconstituted several of Smith's grave lots, and her study is supplemented here by reference to Smith's field notes, the museum's accession list, and museum photographs. I am grateful to Ellen FitzSimmons Steinberg and James B. Richardson III for providing this material. There are some inconsistencies between the documentary sources, but in general the fit is good. Smith notes that his graves were found in or close to house sites. In this appendix, Smith's finds are listed by individual burial, that is, the content of a single urn. There were often several urns in a grave, and most of the ambiguities concern the positions of accessory vessels. At least three metal items were found loose in the earth of the graves, or came from rifled tombs. These are not included here. The remaining graves (items g–j) were excavated by Mason.

a. A small, covered burial urn

Contents: remains of a child under two years old, a fine brownware cup, and a tumbaga pendant or tinkler in the form of a seated frog (Fig. 2.6; acc. no. 2005/145). There is some ambiguity about whether a covered blackware bowl was inside or outside the urn.

b. A large, sealed burial urn in the same grave as the above

Smith believed the broken bones belonged to a single skeleton, accompanied by a tumbaga pendant in the form of a frog (Fig. 2.7; acc. no. 2005/158), a tumbaga bell, of "cowry shell" shape and with a greenstone pebble clapper (Fig. 2.5; acc. no. 2005/158a), 2 stone axe heads, and possibly a stone club. Three blackware bowls were either inside or outside the urn, and a jar cover was somewhere in the grave. In addition, Smith found a single small tumbaga batrachian somewhere in this general locality at a depth of 75 cm (Mason 1931–39: pl. CLIII, 7).

c. A sealed urn, among several other jars

Contained remains of a child ten years of age or younger, a tumbaga spread-wing bird pendant with a big beak (acc. no. 2005/122), a miniature stone axe, 2 birdlike shell ornaments, shell tinklers (on the cover of the jar), red stone beads, 2 carnelian pebbles, a cylinder of red stone, and an oxidized stone (?). Close to the urn were a sherd with a bird's head and sherds from a fine, black, handled vessel.

d. Large, covered urn in a grave containing five urns in all

Contents: 3 adult males, 3 stone axes, 3 stone "clubs," 4 unperforated red stone cylinders, shells, a stone (?), a shallow plate, "lime with a hole in it" (probably from the neck of a lime flask), 4 cylindrical tumbaga beads of rolled sheet (Fig. 2.4; acc. no. 2005/153d–g), a broken tumbaga spread-wing bird pendant (Mason 1931–39 pl. CLIII,1; acc. no. 2005/153a), an unusual tumbaga bird pendant (Fig. 2.1; acc. no. 2005/153), a tumbaga "anteater" pendant (Fig.2.2; acc. no. 2005/153c), and a fish pendant (Fig. 2.3; acc. no. 2005/153b). None of the metal items is typical of Classic Tairona. The fish is a Sinú, or possibly Isthmian, piece (Falchetti

1995: 127). The quadruped, too, was probably made in the Sinú area (cf. Falchetti 1995: 127–129), though an identical animal, with no precise provenience, came to the Museo del Oro in a mixed Tairona lot (Legast 1987: fig. 15; Juanita Sáenz, personal communication, 1999). Whatever the place of manufacture, this entire group seems typologically early and may well belong to the Nahuange Period rather than to Classic Tairona.

e. Large burial pot with cover

Smith's notes describe a covered urn (acc. no. 2005/301) containing bones, a stone axe (acc. no. 2005/160), and a "gold bell in the shape of a cowry shell" (acc. no. 2005/161). In the museum's accession list, item 301 is a bead from Las Cruces. The other artifacts are missing and undescribed.

f. Urn

Contained at least 2 adult males, a stone club, a stone axe, 1 unperforated red stone cylinder, 19 carnelian pebbles, a tumbaga anchor ornament (Mason 1931–39: pl. CLIII, 2; acc. no. 2005/279), and a tumbaga feline bell (Mason 1931–39: pl. CLIII, 5; acc. no. 2005/279a).

g. Urn burial (Mason 1931–39: 28)

A child with 5 pots, 5 black pottery whistles, cornelian beads, bones of a small animal, and a broken frog of copper or low grade tumbaga.

h. Urn burial (Mason 1931–39: 271)

"In an urn at Gairaca were found many shell objects encrusted with, and held together by, copper."

i. Urn burial (Mason 1931–39: 263)

A thin cast gold item, (?) part of an eagle pendant (Mason 1931–39: pl. CXLVI, 4). It is not clear what else was in the urn.

j. Group of 7 burial urns (Mason 1931–39: 30)

Around the base of the central urn were several stone axe heads and beads. Beneath it were human bones and a copper animal figure.

Bonda (Angell Collection) (Mason 1931–39: 253)
A stone-lined grave the contents of which included a pottery ocarina and a black pot with penannular metal ear ornaments.

Chocuenca (Angell Collection, Cranbrook Institue of Science/Angell Archive, and Mason 1931–39: 256–258; information courtesy of Carole DeFord)
A small stone-lined tomb with "bones." Contents (not necessarily a complete listing): more than 20 broken stone axes, shell ornaments in the shape of nose rings, rock crystal beads, 1 cornelian toucan head, 1 quartz polishing stone. Of gold or tumbaga were half of a simple

butterfly nose piece (similar to Fig. 1.5), 1 complete nose ornament (Mason 1931–39: pl. CLVI, 1), a broken gold disc (Mason 1931–39: pl. CLIV, 4) and possibly "a piece of gold" (the archive is ambiguous).

Nahuange
a. Site 2 (Mason 1931–39: 36, 253–254)

Miscellaneous burials in "free soil," rather than in urns or burial deposits. The finds included shell crocodile heads, tinklers and pendants, cornelian beads, 2 tumbaga plaques, and "a few other gold objects." Somewhere on the site Mason excavated a pair of tumbaga penannular ear ornaments.

b. Site 3 (Mason 1931–39: 37, 254–256)

Many poorly described interments and one urn burial. Loose finds were distributed through the soil; other items were contained in pots. One fragmentary vessel contained small gold beads, small tubular carnelian beads, and large tubular beads of shell. "Other small vessels contained carnelian beads and [unspecified] ornaments of gold-copper alloy." Somewhere on the site (exactly where is not mentioned) Mason excavated a pair of metal bracelets or cuffs (pl. CLV, 3) a "pectoral acoronazado" (pl. CXLV, 1) and 2 "butterfly" nose pieces (pl. CXLVI, 1–2).

Buritaca 200 (Ciudad Perdida)
a. Terrace 49, Tomb 2 (Groot de Mahecha 1985)

Shaft tomb (in a house-ring) with a side chamber sealed by a grinding stone. Contents: 2 anchor ornaments (cf. Fig. 1.7), 2 penannular ear ornaments (cf. Fig. 1.11), 1 round cornelian bead, and 1 small carnelian owl effigy. Charcoal provided a C-14 date of A.D. 1385 +/- 45 (GrN-9247).

b. Terrace 25 (Groot de Mahecha 1985)

A damaged shaft tomb with a side chamber containing 4 tubular carnelian beads, 2 tumbaga anchor ornaments (cf. Fig. 1.10), 1 tumbaga nose piece (cf. Fig. 1.6), and 80 little square plaques of tumbaga, each with two holes for sewing to a textile backing,

c. (Lleras Pérez 1985: 121–127)

A shaft tomb within a house-ring. Contents: 39 tubular beads of green and red stone, 1 fragmented bead of sheet gold.

San Jose de Minca (Museo del Oro archive; Sáenz Samper n.d.)
The archive refers to 68 gold pieces from 8 (undifferentiated) tombs and to one nose piece (MO acc. no. 8648) found in place on a skull in a burial in a rock cleft.

Minca (Museo del Oro archive; Sáenz Samper 2003)
Report of a number of urns, each containing one or two metal frogs.

Minca (Museo del Oro archive; Sáenz Samper 2003)
From a single deep tomb with no pottery came 15 gold items (MO acc. nos. 8975–8991): an "eagle" pendant, various hollow semicircular ear pieces, a double-bar nose ornament, a chisel, 2 circular nose pieces, and a set of small plaques for sewing onto textiles (cf. Plazas 1987: fig. 16a).

San Pedro de la Sierra (Museo del Oro archive; Sáenz Samper 2003)
A shaft-and-chamber tomb containing a bird pectoral with three big-beaked heads (MO acc. no. 8974). There was no pottery.

San Pedro (Museo del Oro archive; Sáenz Samper 2003)
a. From a tomb of unknown form came 9 reportedly associated items: an eagle pendant, 2 penannular hollow ear ornaments, 2 penannular ear ornaments with wirework decoration, a cylindrical nariguera, 2 triangular necklace pieces with prolongations, and a collection of broken fragments.
b. Report of an eagle pendant alone in a tomb. From the same place, bird pendants with "batmen" figures seated on top are said to occur singly in tombs.

Finca La Esmeralda, Bonda (Museo del Oro archive, Sáenz Samper 2003)
A report of "buttons," and fragments of labrets and of narigueras in little offering pots.

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The Seed of Life: The Symbolic Power of Gold-Copper Alloys and Metallurgical Transformations

Ana María Falchetti

Pre-Hispanic metallurgy of the Americas is known for its technical variety. Over a period of more than three thousand years, different techniques were adopted by various Indian communities and adapted to their own cultures and beliefs.

In the Central Andes, gold and silver were the predominant metals, while copper was used as a base material. Central Andeans developed an assortment of copper-based alloys. Smiths hammered copper into sheets that would later be used to create objects covered with thin coatings of gold and silver. In northern South America and the Central American isthmus gold-copper alloys were particularly common.[1] Copper metallurgy was also important in Western Mexico and farther north.

Putting various local technological preferences aside, Amerindians used copper extensively as a base material. What then were the underlying concepts that governed the symbolism of copper, its combination with other metals, and particular technologies such as casting methods in Pre-Columbian Colombia, Panama, and Costa Rica?

Studies of physical and chemical processes are essential to a scientific approach to metallurgy, but for a fuller understanding, technologies should not be divorced from cultural contexts. Establishing a line between technology and culture or between technology and symbolism would be to ignore the fundamental unity of technology and ideology for, as Heather Lechtman (1975) points out, technologies are systems of beliefs in themselves. This is why the symbolism of Amerindian metallurgy should not be isolated from the thought processes, experiences, and theories of these communities, where particular logic, codified in mythologies over millenia, acted as a framework for comprehending and controling the universe.

In traditional societies, cosmology provides the unifying structure guiding all aspects of human life. The origins of the cosmological order are usually explained as a "gestation in the universe." This process is recorded in local origin myths. The phenomena of life development lead to the establishment of a calendar that integrates observed cyclical processes: the seasons

[1] The term *tumbaga*, frequently used to refer to copper-based alloys, was "imported" by the Spaniards from southeast Asia (Blust 1992). In the Caribbean islands, these alloys were known as *guanín*.

and the development of human, plant, and animal life. The concordance of cosmological and biological models guides economic, social, and ritual activities. The properties of metals and the symbolism of their combinations and transformations can be analyzed in the context of cyclical regeneration.

Various belief systems and their social and ritual expressions are preserved in mythologies of present-day Indian societies, in ethnographic studies, and in historical sources on past Indian communities. These communities have been flexible in adjusting to different influences, especially in relation to technological and socioeconomic activities. Their symbolic systems and thought structures, however, have been more resistant to change, for they deal with the most basic concerns of humanity: life and death and the interpretation of the cyclic phenomena of the universe and nature. Thus, the essence of old mythologies and cosmologies tends to survive in spite of foreign influences over time.

Mythologies that include references to metallurgy shed light on the symbolic associations of metals in cosmological and social contexts; shared symbols are important in social communication and in the determination of cultural identity. Among the scores of local mythologies, constants and basic lines of thought are recognizable: this phenomenon relates to the very nature of mythology as a way of explaining the world in terms of multiple analogies and all-encompassing transformations. As Nicolas Saunders (1998) points out, a Pan-American reality can be found behind many local worldviews. Also of interest is Dan Sperber's (1977; 1988) biogenetic approach to "universal forms of symbolism" and basic mental structures.

Thus, we can try to establish analogies between the myths of different societies, finding central themes related to the symbolism of metals. In this paper, I analyze the mythologies of Indian communities which offer particularly rich information on the symbolic properties of gold and copper, of their combinations and transformations through smelting, alloying, and casting,[2] as reproducing cosmological schemes and the model of the life cycle of humans. I include the Chibcha-speaking communities who live or lived in the mountainous regions of Colombia, such as the ancient Muisca and the present-day Uwa of the eastern mountain range and the Kogi people, the contemporary inhabitants of the Sierra Nevada de Santa Marta, as well as some communities who belong to lowland environments, such as the Chocó-speaking Emberá of western Colombia, the Chibcha-speaking Kuna of Panama and Northwestern Colombia, the Desana of the North-west Amazon, and the ancient Malibú of the Caribbean lowlands (see Fig. 3). References to the symbolism of metals among ancient communities of the Caribbean islands, Peru and Mexico are included for comparative and complementary purposes.

[2] Pre-Hispanic objects made of gold-copper alloys frequently include some silver, which occurs naturally in the ores. The intentional alloy of gold, silver, and copper was developed in the Central Andes, a choice that would be in accordance with the importance of silver metallurgy in the area. The available information about the metal composition of objects from different regions of central and northern Colombia, Panama, and Costa Rica does not affirm that silver was intentionally added to the gold-copper alloy. However, having in mind that silver metallurgy was not common in the area, while gold, copper, and gold-copper alloys were the most important, this paper concentrates on the symbolism of these two metals and of their transformations through smelting and casting, the most common techniques in the area.

This framework can support many local interpretations of the symbolism of metals. A number of studies have explored the role of metal objects as communicators of cosmological energies,[3] especially in the case of ritual ornaments and their role in legitimizing secular power and prestige. For example, individuals who were endowed with the knowledge to mediate between society and the supernatural used, among other ornaments, metal items imbued with celestial energies.

However, various ornaments and religious offerings were also used by the common populations. Combining information provided by mythology, ethnohistory, and archeology, I explore the symbolism of these elements in the context of cosmological and biological cycles. Metal objects' association with the cyclical rhythm of life at a supernatural level conferred on them a symbolic power that Amerindians related to in order to ensure social stability and survival.[4]

The "Gestation in the Universe": Metals and Cosmology

The belief that celestial bodies influence the development of metals is common among ancient and non-Western societies (Eliade 1974). Considering that mythologies usually explain the origins of a cosmological order as a "gestation in the universe," the multiple associations of the sun and the moon as a celestial couple prove to be of primary importance. In spite of the variety of interpretations of the cosmological role of these celestial beings, frequently imbued with ambiguous properties, some general concepts can be traced.

The primary association of gold with the male generative power of the sun and of silver with the feminine qualities of the moon is found in the cosmology of people who favored the metallurgy of these two metals. The cosmologically derived qualities are expressed in visible properties of the metals, such as their color. In spite of the variability in the complex codifications of colors established by different societies, it is common to find that yellow hues are associated with the energy of the sun, which is transmitted to gold,[5] while the pale color of silver is linked to the energy of the moon. These associations existed in Inka cosmology and they can probably be recognized in pre-Inka metal ornaments that juxtapose gold and silver. As Walter Alva and Christopher Donnan (1993: 223) propose, the combina-

[3] See for instance: Helms 1979; 1987; 1993; Reichel-Dolmatoff 1981; 1988; Lechtman 1993; Saunders 1998; Oliver 2000.

[4] The information in this essay is part of a long-term project dealing with the study of the symbolism of pre-Hispanic metallurgy. Its methodology combines mythological, ethnographic, historical, and archaeological information with mythology as a starting point to establish lines of interpretation based on the worldviews of various Indian communities.

[5] The association of gold with the yellow power of the sun is widespread among Amerindian communities. For the Inka of Peru, gold was the "sweat of the sun." The Aztecs of Mexico considered gold the "excrement of the sun." These beliefs are still alive in the mythology of present-day Indian societies. The Kogi of the Sierra Nevada de Santa Marta in northern Colombia associate gold with male fertility, received from the sun. They also believe the sun and gold exchange energy. Gerardo Reichel-Dolmatoff (1981: 26) describes how the Kogi priests expose their golden ornaments, which are in fact archaeological items, to the sun's rays to recharge their energy. The mythology of the Kuna Indians of Panama and northwestern Colombia refers con-

tion of the two metals likely represents a basic dualism that communicates balance between their complementary cosmological energies.[6]

As has been explored by Mircea Eliade (1981: 135, 150), one of the principal properties of the sun is immortality. Sunset is not seen as the death of the sun, but as a descent into an underworld often associated with the realm of the dead. But the sun reappears unchanged each morning and is thus not subject to the universal laws of transformation, that is, birth and death. Immortality, which is exclusive to deities, is a quality that links gold with the sun, for gold is the incorruptible metal that never dies (Fig. 1).

The characteristics of the moon contrast those of the sun. The moon grows, wanes, and for three nights every month disappears completely. Like human life, the moon's cycle ends in "death." Although the moon is "mortal," its cycle is a symbol of periodic regeneration. The death of the moon is not forever. The new moon, a symbol of the moon's rebirth, represents humans' wish for regeneration, that is, "rebirth" of the dead.

The mythology of the Desana of the northwestern Amazon as interpreted by Gerardo Reichel-Dolmatoff (1981) is useful in analyzing the symbolic associations of copper. In some contexts copper is related to female properties and to the transformations of the moon.

This must be related to copper's capacity for transformation. It tarnishes and oxydizes. It is subject to change, deterioration, and "death" (Fig. 2). These properties are associated with human life and its development and, in cosmological terms, with the cycle of the moon. Copper has characteristics of "mortality," which relate to humanness, in opposition to gold with its "immortal" qualities, usually linked to deities. The dualistic properties of the moon are apparent in the opposition between its mortal (human) qualities associated with copper, and its divine qualities, expressed in its periodical regeneration, related to silver.

The cosmologically derived qualities of gold, silver, and copper help explain the social meaning of these metals and their supernatural associations. For instance, in the mythology of certain ancient communities from the central coast of Peru, chiefs descended from a golden egg, and their wives from a silver egg, while commoners were born from a copper egg (Calancha [1638] 1982, 3: 934). This must symbolize the mortality of the common people and the immortality of divine rulers. Such associations determined the use of particular metals by different members of society, a situation also expressed in funerary contexts.

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stantly to gold. In ancestral times everything in the universe was made of gold, and Ibelele, the celestial emissary during that golden age, "navigates in the sun, his home." Jorge Morales (1997) has equated the golden age of the Kuna with a seminal power that invaded the universe. The association of gold with the fertilizing power of the sun is reflected in images of a humanized sun wearing golden ornaments, which are an expression of that power. Thus, for the Emberá people of western Colombia, the sun is a man with a large circular golden hat (Wassén 1935: 135), and for the Kogi the sun is a man with a golden mask and a large circular breastplate. The rays produced by these ornaments bring life to the universe (Reichel-Dolmatoff 1985).

[6] Due to the variety of local cosmologies, a different emphasis was given to particular symbolic associations. In coastal Peru, for instance, the lunar-oriented cosmologies of certain pre-Inka communities guided the importance of silver and its color, a fact that probably also influenced the status of arsenical bronzes, with their silvery colors. In contrast, the Inka favored the metallurgy of tin bronzes, whose yellowish hues correspond with their sun-centered cosmology.

Fig. 1 Gold is linked in many mythologies with the sun, the immortal celestial being. Gold pectoral, Tairona. Sierra Nevada de Santa Marta, Colombia. Museo del Oro, Bogotá, acc. no. 16146. Dia. 14 cm.

Fig. 2 Copper tarnishes and oxidizes and is subject to deterioration and "death." These properties link this metal symbolically with the cyclical life of the moon. Copper votive offering, Muisca, eastern mountain range of Colombia. Museo del Oro, Bogotá, acc. no. 5561. H. 10.5 cm.

As Izumi Shimada (1995; 1996) found at the Sicán funerary complexes on the northern coast of Peru, and Walter Alva discovered (1994) at the Sipán tombs of Lambayeque, particular metal ornaments reflected the rank of the deceased. Only the graves of high-status individuals contained ornaments of solid gold and silver. The tombs of the so-called nobles had gilded or silvered ornaments of copper or copper-based alloys, probably meant to imitate the gold and silver restricted to the supreme leader. The graves of the commoners contained objects made only of copper.

Desana mythology employs the term *copper colored* to refer to a wide range of reddish hues that are usually associated with female properties. At a cosmological level, red is frequently associated with the birth of humanity. The Desana link reddish hues to lakes and rivers, for human life originated in primordial waters (Reichel-Dolmatoff 1978: 259; 1981: 21). The Uwa, a Chibcha-speaking community of the eastern mountain range of Colombia (Fig. 3), associate reddish hues and blood with the feminine underworld, which "contains the blood of humans" (Osborn 1995). Coppery red colors are related to blood—the feminine component of human beings—and to the mortal and corruptible parts of humans (blood and flesh), as opposed to the bones, which include male incorruptible qualities. Thus these properties of reddish colors tend to confirm the association of copper with feminine qualities, humanness, and mortality. This relation of reddish hues and "female" metals is fairly common in many ancient and non-Western societies (Eliade 1974: 36).

Odor represents another expression of metals' energy and gender connotations. Gold is odorless, while copper has a distinctive odor prized by Indian communities. The Desana, for instance, associate the smell of copper with that of a toad, which represents female fertility, transformation, and procreation (Reichel-Dolmatoff 1981: 22).

Given these primary associations, gold and copper appear to represent opposed and complementary basic properties in terms of predominant male and female qualities.[7] The union of the sexes through metallurgical combinations is fundamental to achieving the correct fusion that will lead to "birth." Iron workers of central and southern Africa, for example, still maintain the symbolism of metallurgical transformations related to the development of the human embryo (Rowlands and Warnier 1993; Collet 1993).

The qualities of metals change based on their combinations. According to Desana mythology, copper has the color of blood, a feminine element, but also the "color of transformation." Metallurgical processes represent embryonic transformation, symbolized by the changes of the moon once it is fertilized by the sun, a cosmological scheme associated with the cycle of development of humans (Reichel-Dolmatoff 1981). The stages of transformation correspond to the monthly phases of the moon, which are associated with certain colors, odors, and textures and to different stages of human embryonic transformation and

[7] The relationship of the sun and the moon, in most mythological analogies, can be ambiguous and may change according to the associations established by different societies or interpretations of symbols in the community relating to context or the ideas of individuals (Sperber 1988). In Desana mythology, for instance, the male and female properties of the sun and the moon appear in the cosmological context analyzed here. In the context of other myths, however, the moon has male properties and is referred to as "the brother of the sun" (Reichel-Dolmatoff 1986: 96).

Fig. 3. Some Indian communities that associate metals and cosmological occurrences

social behavior. A closer look at the associations of each phase of the moon suggests relationships to metals, alloys, and metallurgical processes (Fig. 4).

In Desana mythology, the sun fertilizes the brilliant new moon. The Desana associate this period with the beginning of life in the universe, human conception, and the first stage of plant growth. This model guides human sexual, social, and economic activities related to life's beginning. Among the Uwa, the new moon (or "small moon") corresponds to planting and sexual activity (Márquez 1981). The Desana associate the new moon with yellowish and reddish hues, which can be interpreted as a primary combination of male and female properties.

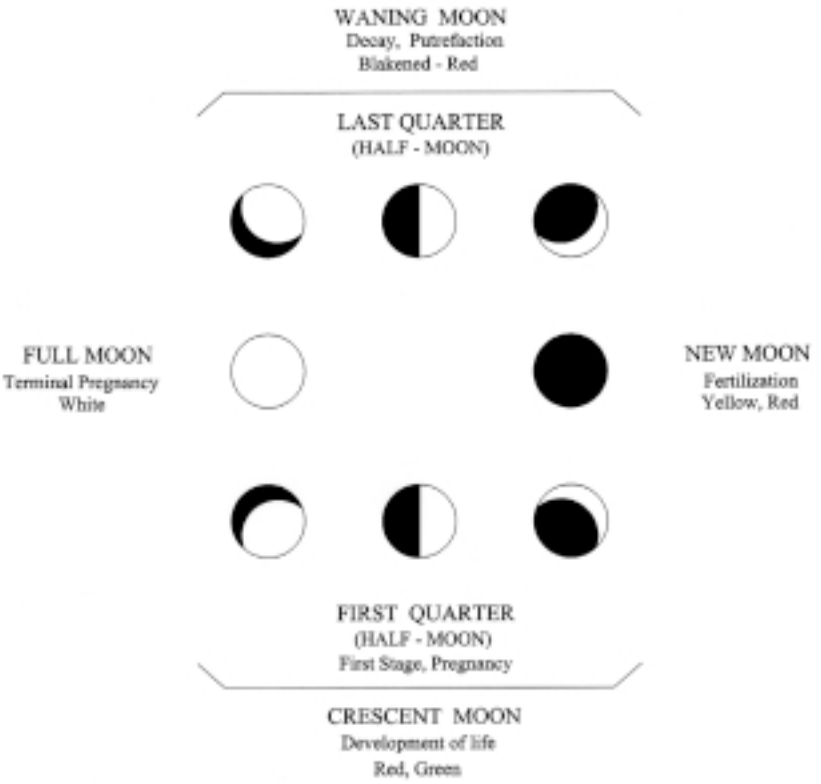

Fig. 4. Symbolic associations of the phases of the moon

By the first quarter, the moon proves to be pregnant. The crescent moon is associated with green, a reference to the growth of vegetation, and with reddish hues, pointing to development of the human embryo (Reichel-Dolmatoff 1986: 72–73; 1978: 258–259). The full moon represents the end of pregnancy and the maturity of fruit;[8] as the Kogi explain, during this period "everything has a seed" (Reichel-Dolmatoff 1975: 232). They associate this phase with a variety of colors, predominantly reds.

A different process begins with the waning moon. Among its associations is menstrual blood, identified as dangerous, and contaminating. A menstruating woman "dies" as a human being and is reborn a few days later. Among the Desana, the waning moon and menstrual blood are related to "blackened-red colors," also identified as "copper colors," and to strong and dangerous odors, both corresponding to the negative properties of the moon and to illness, decay, and putrefaction (Reichel-Dolmatoff 1986: 96–97). The combining of the red hues of female fecundity with black, the color of death, in a hue conceptualized as "copper colored," may well be related to the changes in the color of copper through oxidation and to the inherent possibility of destruction and "death" of this metal.

[8] The Inka celebrated the great ritual of *Mayacati* during the full moon following the summer solstice. This ritual had symbolic associations with the harvest and with the fertility of the lands of Cuzco (Zuidema 1998: 215–216).

The waning moon represents the process leading to death; the nights during which the moon disappears are associated with death and with black colors. The Desana believe that during the dark nights the moon descends to the cemeteries to eat corpses. On the way down, the moon takes off her copper ear ornaments and the crown of white feathers, both of which are the moon's source of light (Reichel-Dolmatoff 1986). During these dark nights the moon is "dead," but it returns to the sky wearing her ornaments again, a rebirth as the new moon. The relation of the loss of brightness to darkness and death recalls the inherent properties of copper that are transmitted to gold-copper alloys; they can lose their brightness through tarnishing and corrosion—decay and death—for dullness has these negative properties. On the other hand, brightness symbolizes life-giving energies (Helms 1987; 1993; Hosler 1994; Saunders 1998).

The various "copper-colored" stages of the moon in Desana mythology start with the fertilizing influence of the sun. Transmitted to metallurgical processes, the changes in copper are produced by a transformation potential to which the fertilizing influence of gold must be added to combine the male and female properties of the two metals and to initiate the embryonic transformations that will result in a gold-copper alloy. These metallurgical combinations reproduce the cosmological pattern of the moon's transformations, which represent the full cycle of the development of life: conception, development, maturity, birth, illness, decay, death, and rebirth.

The "Seed of Life": The Transformation of Metals

The association of metallurgical transformations with embryonic development proves to be important in the interpretation of the role of metalsmiths in traditional societies. Metals represent embryos, "seeds," that produce a germ of life through the process of transformation which, in turn, represents an act of "creation" similar to the cycle of human development.

This association was widespread among communities who mined, worked, or used metals in antiquity. According to Eliade (1974), who analyzed these concepts among Old World societies, metals were seen as embryos that developed in the womb of Mother Earth, where they slowly reached maturity. Through mining and metalworking, humans replace these natural processes of the Earth. Metalsmiths also reproduce the model of the "gestation in the universe." In fact, as Claude Lévi-Strauss (1988) notes, in traditional societies the artisans reproduce the primordial ordering of the universe and reaffirm the essential order of human existence.

"The Bees," an Uwa myth, provides important clues about the symbolism of the transformation of metals (Osborn 1995; n.d.) In previous works I have analysed the content of this myth in the context of Uwa mythology, ritual, and social relationships, and give here the principal ideas that prove to be useful to our understanding of the mythical approach to the transformation of metals (see Falchetti 1997; 2001; Falchetti and Nates-Parra 2002).

According to this myth, in ancestral times the world lacked the elements fundamental for germination—that is, products of stingless bees, especially honey, a principal agent of fertility. Rukwa (the sun-father) sends his creatures, the bees, to the world (Fig. 5). As "pay-

Fig. 5 In the myths of the Uwa communities of the eastern mountain range of Colombia, stingless bees are "the creatures of the sun." Gold appears in the Uwa bee myth as a material that is transformed magically into a "seed" by the female bees (Trigonidae). Photograph by Olga Cepeda.

ment" for inhabiting this world, the bees are given yellow earth,[9] a material symbolizing gold, along with seeds and other elements associated with fertility (Osborn 1990: 27; 1995: 107, 196).

The *yellow earth*[10] is transformed by the female bees into two basic elements: the *embryonic female seed* (*kuna*) in the heart of the beehive (Fig. 6) and the bees' *feminine original matter* (*bita*), represented by the grubs. *Bita* is the immortal essence from which all life forms develop as an embryo; it must be preserved to ensure the continuity of life. In the context of the bee myth, *bita* is also referred to as "lode," a vein of metal ore (Osborn n.d.: 70, 83, 210). The yellow earth becomes a seed or an embryo through a magical transformation performed by the female bees. At the same time, the male bees transform pollen ("male seed") and wood into wax.[11]

Traditionally, the celebrations of the Uwa were performed, and some still are, during each of the four seasons into which they divide the year, following a ceremonial calendar

[9] Other Indian communities refer to metals as "colored earth." Among the Desana, shamans use copper ear pendants (which in the past were probably also made of gold), and triangular silver pendants. The mythical being who taught people how to make these ornaments took yellow water from a well and poured it into molds made of yellow clay. There were two metals that looked like fine grains—one yellow and the other one white (Reichel-Dolmatoff 1981: 20).

[10] It is not known if the reference is exclusively to gold or if it extends to copper and to gold-copper alloys. The analysis of sixteenth-century documentary sources makes it clear that in the past the Uwa received metal objects by trade (Falchetti 1997).

[11] This transformation is linked to the external cover of the hive, which the Uwa associate with male fertility, and protection for the process of germination that takes place in the interior of the hive. The Uwa collect honey and wax from the hives of the stingless bee, a family (Meliponidae) that includes many species and

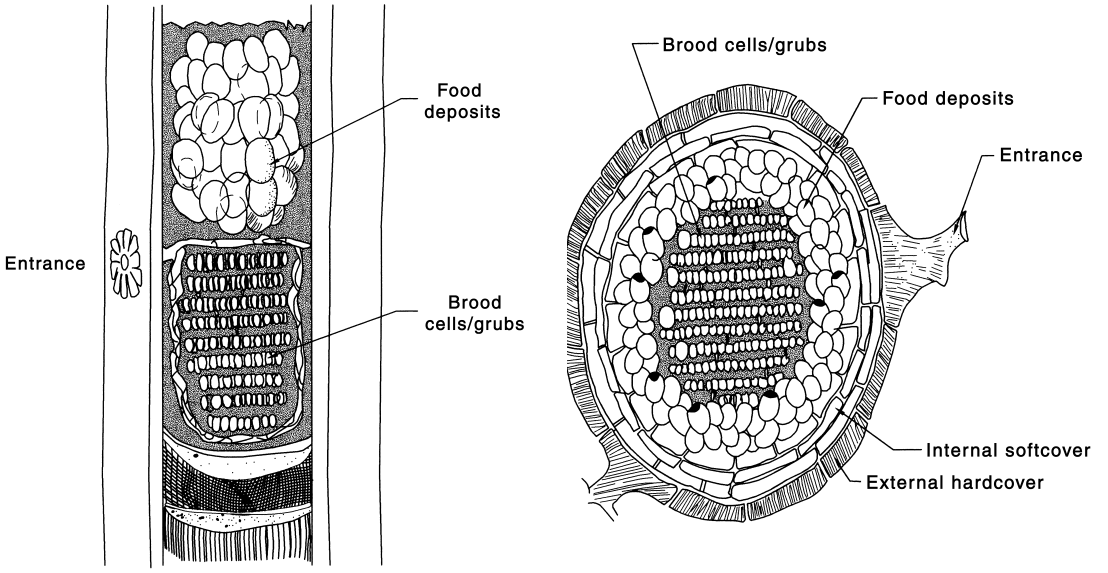

Fig. 6 In Uwa myths, hives of the stingless bees are associated with the "womb." The "embryonic transformations" take place in the heart of the beehive, which is in fact the location of the brood cells.

established according to the movements of the sun (Osborn 1995; n.d.) (Fig. 7). The sequence of Uwa seasonal celebrations and the events described in the corresponding myths illustrate a parallel in their perceptions of the stages of life. The bee myth was chanted during the dry season (summer solstice), which is the season of the seeds and of gestation. In the past this was a time of generalized sexual relations when the men collected honey that both men and women consumed to revitalize fertility. Gold thus appears in celebrations related to the beginning of life that reproduce the cosmological context referred to in the bee myth.

The Kogi of northern Colombia view metals in a similar context. In Kogi mythology, Taikú, the Lord of Metals and Metallurgy, is a solar being associated with the origins of seeds. The sun Taikú brings the dry season, and then the rains, to allow the seed to germinate (cf. Preuss [1914] 1993, pt. 1: 71–72; pt. 2: 34–40, 81–82). In the past, a dance that honored Lord Taikú was celebrated during the dry season, the time of the summer solstice (Reichel-Dolmatoff 1975: 231), the time of the seeds.

Xipe Totec, the god of Aztec metalsmiths, symbolized fertility and regeneration and was associated with the germination of seeds. The yellow color of gold, which was shared by

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is widespread in tropical and subtropical areas. These bees are involved in a series of transformation activities in the construction and maintenance of the hive. They produce wax that is mixed with pollen, resins, wood, clay, leaves, and other materials to create a dark material used in the construction of cells and protective internal and external covers. These activities are carried out mainly by the worker bees, but in some cases the males or drones are also involved in these processes (Nogueira Neto 1997: 43; Shôichi 1982: 389).

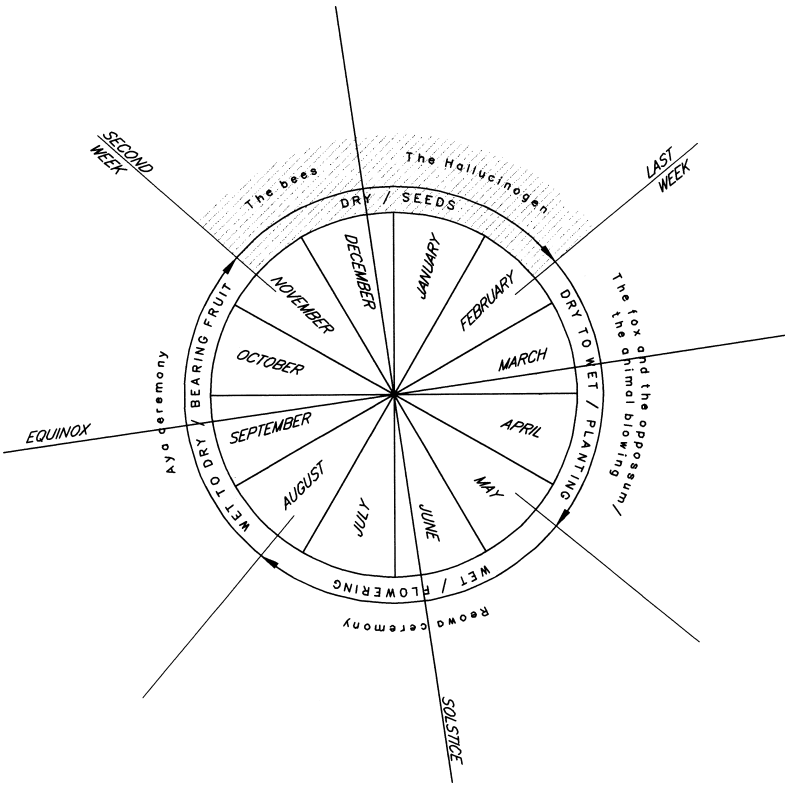

Fig. 7 The Uwa ceremonial calendar (after Osborn 1995)

other materials, such as amber, the sacred resin, was the color of "the new skin of the earth" before the rainy season. During the celebrations to honor Xipe Totec, a participant representing the god dressed in the skin of a sacrificed captive, a symbol of regeneration. Offerings consisted of seeds and the first flowers of the year (Sahagún [1582] 1956: 56–57). In the mythology of West Mexican ancient peoples, metals were the materials from which the creator fashioned the first human beings through mixture and transformation (Hosler 1994: 228, 246).

The native metal—which corresponds to the *yellow earth* of the Uwa bee myth—held special meanings, as suggested by the use of it as a religious offering. The Spanish chroniclers describe how the conquistadors found gold dust and gold ore among the offerings in the Temple of the Sun of Sogamoso, the principal ceremonial center of the Muisca, former neighbors of the Uwa (Piedrahita [1666] 1973, 1: 64).

The smelting of the metal ore is the first transformation of the basic material (Fig. 8). Following the associations established by Uwa mythology, the yellow earth is converted into female embryonic seed; the mineral must then pass through a transformation to produce a "germ of life." The furnaces and crucibles represent the womb, where these embryonic transformations occur. The Desana refer to the development of the human embryo as a "cooking process" (Reichel-Dolmatoff 1981).

Fig. 8 Through smelting, the ore "is transformed" into metal. Reconstruction, Museo del Oro, Bogotá.

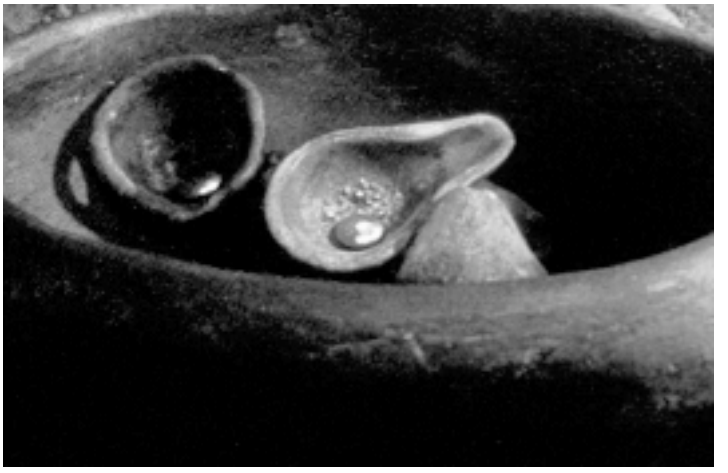

Fig. 9 After smelting, small rounded ingots were left at the bottom of the crucible. Reconstruction, Museo del Oro, Bogotá.

Fig. 10 Ingots found in Muisca territory, eastern mountain range of Colombia. Museo del Oro, Bogotá. Dia. 1.28 cm (average).

Eliade's (1974: 66–70) analysis of the symbolic associations of smelting processes among both ancient and contemporary metalworkers of the Old World shows how the symbolic link of the furnace with the womb and of metals with embryos is directly related to particular offerings and sacrifices. One widespread custom was that of burying a human or animal fetus as a sacrifice to ensure the success of the fusion process. The life energy of the fetus would transfer to the metals and their embryonic process. Similar symbolic associations can probably be found in native American metallurgy, although this has not been explored. The metalworking sites (ca. A.D. 900) excavated by Shimada and his team on the north coast of Peru include a number of furnaces that were used for the large-scale smelting of copper. The construction of the furnaces was accompanied by rituals that included the sacrifice of fetal or neonatal camelids (Shimada and Shimada 1985: 14–15; Shimada 1995: 24).

When processing metal ore, small rounded ingots (in Colombian territory referred to as *tejuelos* in the historical sources) were left at the bottom of the crucible (Figs. 9 and 10). These ingots were used as "raw material" for manufacturing various objects, but they also had social and religious functions of their own. The Muisca, for instance, used the tejuelos as religious offerings (Falchetti 1997). These small ingots represented a first stage in transformation related to smelting, a process through which the ore is transformed into metal. This process is comparable to the initial stage of human development. In some sixteenth-century sources, tejuelos are called "half-moons," and the Muisca called them *guayacas*, a word that Eduardo Londoño (1989: 115, 117) suggests could be related to *ubacaguaia*, a Muisca term for the moon. For the Emberá communities of western Colombia, the half-moon is the first quarter (Pardo 1987: 68), the moment of the moon's cycle associated with the first stage of pregnancy. "Half-moon," however, also refers to the last quarter, which corresponds to the waning moon (illness and decay). These lunar phases, associated with positive and negative implications, are the contrasting parts of a single process synthesizing the rhythm of life. The *tejuelos* or half-moons might symbolize this cycle and the complementary oppositions that define it.

Small ingots may also be related to the subsequent phase—rebirth or the new moon—as suggested by their presence among Muisca funerary offerings, which is documented by sixteenth-century sources and archaeological finds (González-Pacheco and Boada 1990: 54, 58). "In an old and uninhabitable hut which nobody entered . . . which must have belonged to a great lord who died long ago and was buried there many years before, a *catauro* [basket] made in the manner of a sack was found, sewn with a gold thread, and filled with gold *tejuelos*" (Aguado 1581, in Casilimas and López 1987: 140).

The tejuelos were in a process of transformation, as was the "soul" of the dead, according to the identification of death with a transformation leading to a different stage of life or to a "rebirth." This is clear in Uwa mythology, which designates the soul of the dead as an "embryonic soul," the same expression used for the soul of the embryo during the first stage of pregnancy. These associations identify two moments of transformation: the beginning of the individual's life, leading to birth, and the transformation of the dead, leading to rebirth. This represents the entire cycle of development and regeneration. Tejuelos might symbolize this process. They would be in an "embryonic state," prior to the development of the individual, represented by the objects manufactured using the tejuelos as raw material.

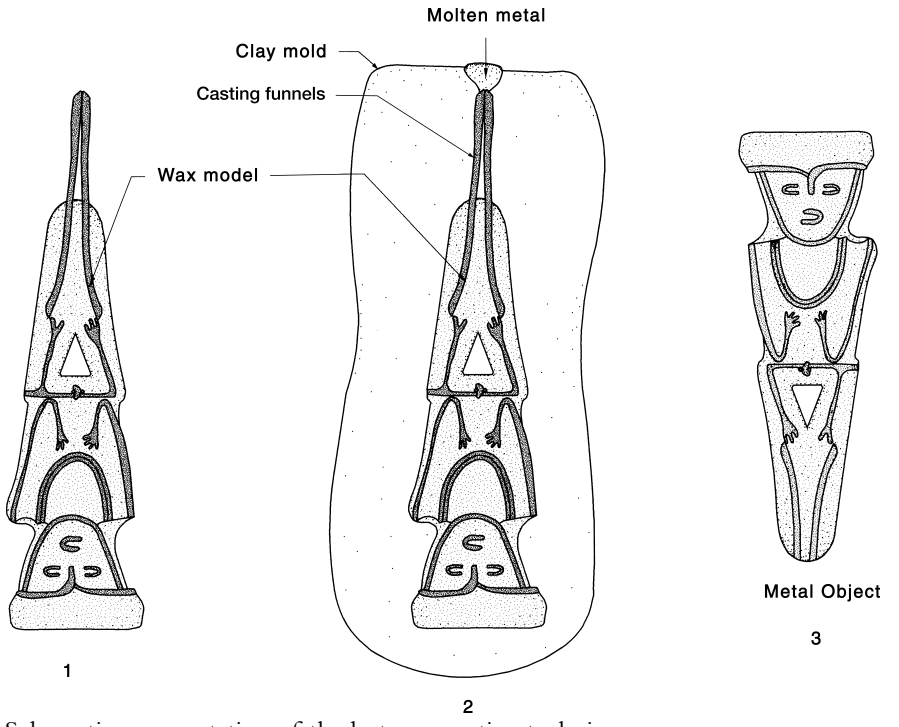

Fig. 11 Schematic representation of the lost-wax casting technique

The lost-wax casting technique was common in pre-Hispanic Colombia, Panama, and Costa Rica (Fig. 11). The initial model of metal objects was made using wax collected from the hives of stingless tropical bees. The process of modeling the figure with wax recalls the mythology of the Bribri communities of Costa Rica that compares the "soul" of the human individual before birth to a figure modeled by the creator deity: "Before birth, a small soul enters the body. This small figure is made by the maker suLá, as if he were making clay figurines" (Bozzoli 1986: 152).

The wax model was covered with a clay mold (Fig. 12). This was then heated so the wax would run out. Molten metal was poured into the space left by the wax—a process that could symbolize, for indigenous people, a "transformation of wax into gold." Wax and gold are associated in the Uwa bee myth and are subjects of complementary transformations performed by male and female bees.

The molten metal poured into the mold represents the "embryonic seed," and the extraction of the object from the mold (Fig. 13) symbolizes "birth." According to Fray Bernardino de Sahagún ([1582] 1956: 71), referring to the work of Aztec metalsmiths, "it is born, the artifact has been cast and completed."

The symbolic associations of metals and transformation lead to some basic observations: for Amerindian peoples, metallurgical combinations represented more than technical conveniences. To them, alloys incorporated the mixing of male and female properties of the metals involved, a balance essential for the successful embryonic development achieved through metallurgical processes. These combinations and transformations, based on cosmological and

Fig. 12. Unused mold for lost-wax casting. Museo del Oro, Bogotá. H. 6 cm.

Fig. 13 Lost-wax casting mold refilled and opened. Museo del Oro, Bogotá. H. 5.7 cm.

Fig. 14 Clay female figurine wearing a nose ornament. Zenu area, Caribbean lowlands of Colombia. Museo del Oro, Bogotá.

biological models, reflect the primary concern of Indian societies for the continuity of life and the equilibrium of the universe, which people must encourage and maintain through ritual and social activity. At the social level, the continuity of the human race was assured through the observance of permitted marriage alliances. The symbolism of metal objects used during such social occasions was transmitted to the people who used them.

The Continuity of the "Seed of People": The Properties of Metals and Social Survival

For the Uwa, their former system of matrimonial exchange sustained the right "mixture" of the characteristics of exogamic groups. This human self-perpetuation is interpreted as the preservation of the "people's seed." Reichel-Dolmatoff (1981) affirms that the Desana relate metallurgical processes to matrimonial exchange—to the way in which the properties of exogamic groups (which are also associated with colors, odors, and other qualities) must be mixed to reach balance. I believe that these associations were present in the case of some metal ornaments that were formerly used during marriage ceremonies; in some areas, their use survives to this day. These objects and their properties symbolize the permitted marriage alliances.

Metal nose ornaments of various shapes have been found in northern Colombia. In sixteenth-century sources, nose pieces are reported as performing special social functions (Fig. 14). The Malibú people of the lower Magdalena River (see Fig. 3), prized these ornaments as "bride price" during marriage ceremonies. On these occasions, the bridegroom offered nose ornaments to his father-in-law:

> and the bridegroom gives the father-in-law the best jewels he has, which are worn in that cartilage that divides the two nostrils. . . . They call this jewel or jewels, *mayun*. (Medina, Gómez Rondón, and Bermúdez [1579] 1983: 186–187)

The historical sources do not describe the features of these particular ornaments but nose pieces of various shapes have been found in Malibú territory. Probably objects with certain characteristics represented Malibú identity and were a symbol of a marriage alliance created to ensure the permanence of Malibú society. A similar situation is found among the Kuna Indians of Panama and northwestern Colombia. Kuna women still use metal nose ornaments. At one point men wore them as well. These ornaments reaffirm the social norms which follow the teachings of the cultural heroes of Kuna mythology (Helms 1979: 80–83; Morales 1997).

These nose ornaments produced and exchanged formerly in northern Colombia and western Venezuela and having the shape of a curved bar (of gold, copper, or gold-copper alloys) correspond in these northern regions to the ornaments described in some sixteenth-century sources as *caricuríes* (Falchetti 1995).[12] Although the caricuríes of different areas share the same basic shape, regional variations are distinguishable.[13] The items from the Sierra Nevada de Santa Marta, for instance, have large circular ends and are usually made of a gold-copper alloy with a characteristic reddish color (Fig. 15). The caricuríes from the San Jacinto mountain range, to the north of the Caribbean lowlands, have smaller ends and are made of a surface-enriched alloy with a high copper content highly susceptible to corrosion (Falchetti 1995: 291). Historical sources also mention regional differences in the morphological details of nose ornaments; they report that items from different regions could be distinguished by the size of the ends (see Martínez 1989).

The historical sources also report differences in the metallurgical composition of objects made of gold-copper alloys by the Malibú communities and by people of neighboring regions. Although these compositions must have been influenced by Spanish demand and the pressure on Indian metalsmiths to add more copper to metal objects used in trade, the different combinations were likely of pre-Hispanic origin. Thus, the Valle de Upar, in the Cesar River valley, was traditionally known for the production of nose ornaments and bracelets of eight or nine carat gold, and the region of Tamalameque, in Malibú territory, produced "the lowest grade gold," with only two to four carats (1555 AGI Just 587-A, in Martínez 1989: 47–49). The Pemeo Indians, located farther south, used "much copper" to make their ornaments, and the people of La Cimitarra, in the middle Magdalena River drainage, produced nose rings of gold (Martín [1534] 1959: 496; Piedrahita [1666] 1973, 1: 343) (see Fig.

[12] Caricuríes were used in many communities and probably during different periods, as were nose ornaments referred to in the historical sources as *moquillos* and *chagualas*. Chaguala usually refers to a circular gold breastplate, but also to certain nose ornaments. The term was probably extended to different types of body ornaments with common morphological and technological features. In a document describing the Guainía region in the lowlands of eastern Colombia, a chaguala is described as a "small plate" (Langebaek 1989–90: 214).

[13] Numerous items from different regions of northern Colombia are in the collections of the Museo del Oro, Bogotá (Falchetti 1993; 1995).

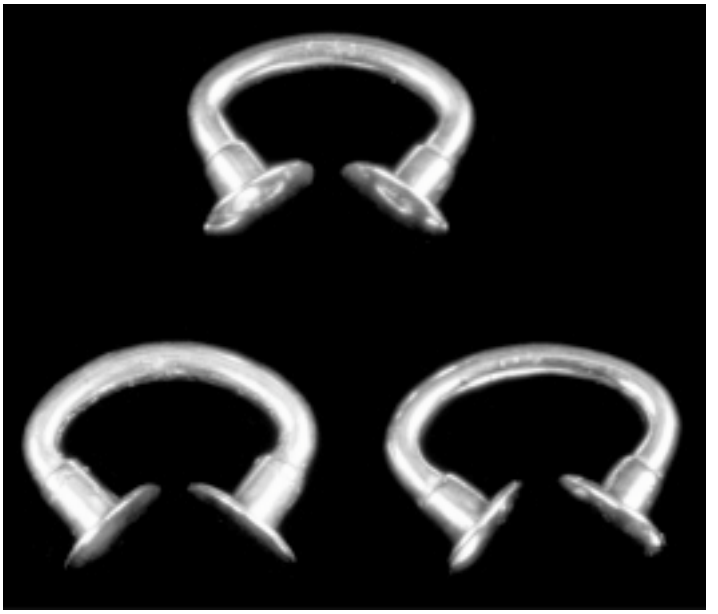

Fig. 15 Nose ornaments (caricuríes). Sierra Nevada de Santa Marta Museo del Oro, Bogotá, acc. nos. 13712, 14357, 1481. W. 4.5 cm.

3). Further metallurgical analysis of objects is needed to confirm some of the local differences mentioned in the historical sources.

The documentary sources report that the Indians distinguished the origin of objects by their color and their odor (see Martínez 1989: 48). This suggests that they identified the color and odor of particular metal combinations with different communities. The alloys could represent the balanced mixtures of male and female properties that identified particular ethnic groups.

The association of ornaments and alloys with the rhythm of life and with exogamic alliances can be considered in examining the use of ear ornaments made of copper-based alloys (*guanín*) among the Taíno of the Caribbean islands. As José Oliver (2000) has analysed, guanín represents a class of materials linked by their special smell and golden or reddish colors and brilliance such as the alloy, some plants with golden flowers or a strong odor, particular kinds of shells, and the iridiscent feathers of the hummingbird. Bartolomé de las Casas's chronicles explain how the Taíno appreciated the ear ornaments made of copper-based alloys for their dark red color and their odor: "A certain kind of low grade gold that they call guanín, which is slightly purple in color which they know for the smell and hold in great value" (Las Casas [1561] 1965, 2: 240). "They also prized certain sheets of guanín, which was a certain kind of low grade gold that they smelled and had as precious jewels, to wear hanging from the ears. . . . These sheets and jewels for the ears were called in their language, taguaguas" (Las Casas [1559] 1967, 3: 318).

Taguagua recalls a word that is still used in the islands to refer to a particular plant with a strong odor (*tagua-tagua* or *Passiflora foetida*) (Figs. 16 and 17). Additionally, a plant with

strongly scented golden flowers known in Cuba as *guanina (Cassia occidentalis*) is referred to in Puerto Rico as *hedionda* (stinking) (Szaszdi 1982–83: 17). The association of guanín ear ornaments with strong or "bad" odors, harks back to the properties of copper that were transmitted to gold-copper alloys in the context of transformations of the moon. The "copper-colored" waning moon is associated with strong and dangerous odors and with decay and putrefaction, and is opposed to the crescent moon, the time of the development of life. Guanín ear ornaments could symbolize this cycle, a fact that explains their importance as a symbol of the correct matrimonial combinations. In fact, guanín ear ornaments once played an important role as a bride price in marriage alliances. They were considered a suitable gift for a man to give to the daughter of a cacique to obtain her as a bride:

> and this guanín was so prized . . . for its smell or for some other property with which they credited it. . . . These sheets [ear ornaments] were valued . . . to give them to the daughter of one of the chiefs or lords, so that the lord would give them what they wanted [the bride]. (Las Casas [1559] 1967, 3: 318)

> They also gave as price for the Maiden, certain sheets of Guanín, which was a certain kind of low grade Gold, that the Indians of that Island smelled, and had as Jewels of great estimation, and which they hanged from the ears. (Torquemada 1723, 2: 427)

Thus, the smell of guanín can be analyzed in terms of exogamic alliances that may include the concept of the "right combination of odors" of the different groups. Among the Desana, for instance, the correct marriage alliances are interpreted as a good combination of odors, while the incompatibility of partners is described as having a "contaminating odor" (Reichel-Dolmatoff 1978: 272–273).

Exogamic alliances include the negative properties of the different groups, which must be balanced, due to the uncertainty of the life cycles that man tries to control by following the rules of marriage established by the ancestors to ensure, as the Uwa would say, the "continuity of the seed of people."

The importance of nose and ear ornaments during marriage ceremonies highlights the relationship of these objects to particular parts of the body having gender connotations. This association deserves further study in the case of metal ornaments. For the Uwa, the nose has male sexual connotations, while the ears are related to female sexuality (Osborn 1995: 190).

The Protection of "the Seed of People": Metals, Trade, and Social Continuity

Some of the basic symbolic associations of metals and objects analyzed above were shared by different Indian societies. This explains, in part, the importance of particular ornaments in trade networks that included communities that did not produce the coveted objects. These trade relationships are based on cosmological models. The strong distinction that traditional societies establish between their own territory and foreign lands has been extensively analyzed by Eliade (1959), and by Helms (1993), who explores the link between

Fig. 16 *Passiflora foetida*, a plant with a strong odor that was associated among some Amerindian communities with female properties and with gold-copper alloys. Photograph by Cristina Uribe.

Fig. 17 Pre-Hispanic metal pendant representing a passion flower, *Passiflora sp*. Malagana, Colombia. Museo del Oro, Bogotá, acc. no. 33277. H. 3.3 cm.

geographical distance (horizontal) and supernatural distance (vertical). The known and "humanized" world is ordered by the sacred precepts contained in myths. Beyond this world's limits, a less organized territory begins, which is believed to be inhabited by beings without social norms and is identified with dangerous, supernatural realms.

At the same time, in traditional societies, identity is closely related to distance. In social terms, the danger represented by groups located outside one's ethnic territory is associated with the location of these people beyond the matrimonial circuits of the society on which social survival is founded. This brings to mind Lévi-Strauss's (1978: 190–192) analyses of the dynamic opposition between the "near" and the "distant," and the way distance influences the permitted or forbidden marriage relationships that determine social order.

Trade with "supernatural" or "antisocial" lands was dangerous but at the same time symbolically protected the society against the danger represented by foreign groups (Falchetti 2001; n.d.). In this context, particular ornaments used in exchange took on symbolic meaning. The case of trade relationships between the Uwa and the Guahibo of the eastern plains—which lasted until recent times and included metal ornaments—is illustrative. The Uwa consider the Guahibo the "spirit of sickness," a concept applied to groups with whom the Uwa did not intermarry. Illness and contamination are associated with forbidden marriage alliances.

From the Guahibo, Uwa men obtained for their wives beads made of fresh water snails. These necklaces (Fig. 18), considered *raiya* ("wealth-fertility"), were associated with the feminine and fertile underworld. The Uwa presented them upon marriage (Osborn 1988: 35; Chaves 1964: 13). Until recent times, young marriageable Uwa men and women used metal nose ornaments that were probably passed down from generation to generation (Betania 1964: 82). It is clear from the sixteenth-century sources and contemporary ethnographic studies, that the Uwa did not produce these ornaments, and that they could be obtained, in former times, from the Guahibo who acted as intermediaries between the Uwa and gold-producing communities to the east, such as the Caquetío (Federman [1532] 1958: 67; see Falchetti 2001; n.d.).

Osborn (1985: 37; 1988: 35) explains that instead of exchanging women with the Guahibo, the Uwa exchanged shell beads that symbolized female fertility. Metal nose ornaments may have had similar associations given that in Uwa mythology gold is related to the "female embryonic seed." The receipt of metal nose ornaments from the lowlands is in accordance with Uwa cosmological concepts, in which the plains are associated with the feminine and fertile underworld. The Uwa substitued these objects for the wife to reinforce the marriage rules on which Uwa identity and survival were founded and to maintain stability in interethnic relationships.

The concepts underlying trade relationships were deeply rooted among various Indian communities, and in some cases trade continued to be practiced with inherited objects or with archaeological items. The Wayú, who still live in the Guajira peninsula in northern Colombia (see Fig. 3), for instance, appear never to have produced metal objects. Eighteenth-century sources, however, explain how the Wayú obtained metal nose ornaments used espe-

Fig. 18 Uwa woman wearing a shell necklace, a symbol of female fertility. Photograph by Ann Osborn.

cially by women from the neighboring region of the Sierra Nevada de Santa Marta:

> Having always had a great desire to obtain one of those jewels that the Guajiro [Wayú] Indians hold in such esteem as they were made in the past by the ancient Auroguaco Indians of the Sierra Nevada . . . from where they are obtained: I have recently managed to obtain the item I am sending to your Excellency. . . . I should add that among them [the Wayú] it is used by the Women in the septum of the nose. (1770 AGN MisCol 120: 36; Falchetti 1993)

The sixteenth-century sources and the numerous pre-Hispanic Tairona metal nose ornaments found in the Sierra Nevada area also show that these objects were obtained by the Wayú from this area (Martín [1534] 1959: 495). It is not known if in later periods nose ornaments continued to be obtained by trade from the inhabitants of the Sierra Nevada region, such as the Kogi, who still use ancient Tairona metal objects (Reichel-Dolmatoff 1981).

The concept of nose ornaments and alloys as symbols of balanced male and female combinations, social stability, and protection was probably shared by many communities, independently of their cultural, linguistic, or ideological filiation, which explains, in part, their importance in trade over wide areas. Nose ornaments characteristic of the Sierra Nevada de Santa Marta have been occasionally found in the lower Magdalena area and in the Valle de Upar, while low-grade gold and corroded items of the San Jacinto mountain range have surfaced in the Sierra Nevada de Santa Marta (Falchetti 1995: 291).

That exchange in its broader sense relates symbolically to the exogamic marriage alliances might explain the close relationship between the exchange of metal items and ex-

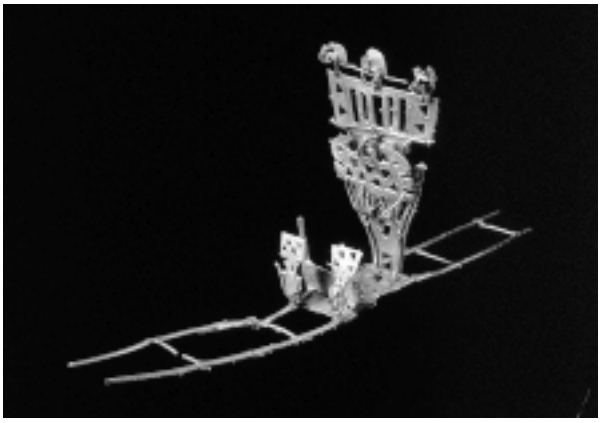

Fig. 19 Muisca votive object. Museo del Oro, Bogotá, acc. no. 11374. L. 22.6 cm.

change of women in different regions.[14] Nose ornaments are only one example. Similar symbolism might be shared by other objects made of metal or of other materials considered important in matrimonial exchanges and to trade. In fact, fertility is usually associated with exchange items.[15] Strict reciprocity is necessary in the relationships that people establish—exogamic rules, internal exchange, or trade with foreign or "nonhuman" communities—as a reaffirmation of humanness and local identity in the context of the search for balance, a constant concern for traditional societies.

Metals, Offerings, and Seeds

The importance of metal combinations and transformations can also be analyzed in the context of the symbolism of votive offerings among the indigenous people of the eastern mountain range of Colombia. The symbolic associations of the offering in the context of contemporary Uwa mythology and ritual help to understand the votive practices of the past. These are known from archaeological finds and through historical sources of the early colonial period discussing formerly Uwa territory and the lands of their ancient neighbors, the Muisca, with whom the Uwa shared cultural and ideological elements.[16] The Muisca mass-produced objects of gold, copper, and gold-copper alloys that were used as offerings by chiefs and priests and by commoners as well (Fig. 19).[17] Uwa concepts that guide the symbolism of ritual offerings include the offering, representing the seed and its transformation; protection, necessary to achieve these processes; and the receptacle, in which the transformations occur (Falchetti 1997) (Table 1).

[14] See, for instance, Whitehead (1990) for a review of the historical sources on this type of exchange in Guyana and the Orinoco basin.

[15] See, for instance, Reichel-Dolmatoff (1981) for the case of the Kogi and Reichel-Dolmatoff (1978) for the case of the Desana.

[16] The sixteenth-century descriptions of the destruction of Indian sanctuaries by Spanish functionaries include detailed inventories of offerings (Cortés Alonso 1960; Londoño 1989; Langebaek 1988). A systematic revision of these early descriptions allows for associations of materials in particular caches and for the way they correspond to associations in Uwa ritual, through which one can explore the symbolism of the offerings and of the accompanying elements (Falchetti 1997; 2001).

[17] See, for instance, Plazas 1987, Falchetti 1989, Londoño 1989, and Lleras 1999. In the past, the Uwa received metal objects used as offerings from Muisca territory (Falchetti 1997; 2001).

Table 1
The Offering and the Seed

Offering (Seed)	Protection	Receptacle	Site Sanctuary
Maize Beans Cotton seeds Coca Manioc Nuts Metals (Gold, Copper, Gold-copper alloys): Native Gold Ingots Figures Small shells Emeralds	Cotton fiber Small textiles Cotton bands	Ceramic vessels Bags (cotton, sisal) Baskets Seashells	Garden plots Huts Temples Lakes Caves Rocks

As noted, in the Uwa bee myth, the concept of the embryonic female seed is related to gold; this seed results from the transformation of the yellow earth (gold) through its mastication by the female bees. The concept of the transformation of the seed applies, in Uwa ritual, to various elements used as offerings, including maize, beans, manioc, some nuts, and coca leaves. These raw products produce a "germ of life" when they are transformed through chewing. Thus, maize is "transformed" into maize beer through mastication by women. According to the Uwa, a germ of life is produced through fermentation.

On the basis of descriptions in sixteenth-century sources and of archaeological finds, we know that in the past various objects of gold, copper, and gold-copper alloys were used as offerings together with seeds of maize, beans, and cotton (1595 AGN CaIn 58: 261v), with emeralds (a symbol of fertility among the Muisca),[18] and with small shells (which among the Uwa represent female fertility). The different types of materials and objects used as offerings are all related to embryos or seeds, to fertility and the development of life.[19]

[18] Reichel-Dolmatoff (1981: 29) drew attention to the association of emeralds with fertility and with the power of the sun in the Muisca myth of Goranchacha, which Spanish chroniclers recorded. This chief, considered by the Muisca to be the son of the sun, was born in the shape of a huge emerald. His mother was impregnated by the sun's rays.

[19] Among Luisa Fernanda Herrera's (n.d.) archaeological finds near Pasca, to the south of ancient Muisca territory, was a pottery vessel containing beads made out of seeds, several plaques made of gold-copper alloy, and a small shell. An anthropomorphic ceramic container with offerings excavated by Gustav Bolinder (1937: fig. 2) in Sopó (Muisca territory) illustrates the association of the offering with the seed that germinates. The vessel has a hole in its stomach, which contained a few emeralds and a gold figure.

Fig. 20 Uwa ritual. Photograph by Ann Osborn.

During some Uwa ceremonies (Fig. 20), a basket, associated with the womb, is used as a receptacle for the process of "germinating" the offerings (Osborn 1995: 106, 142). In the past, cotton and sisal bags, baskets, ceramic vessels, and large seashells also performed this function and meaning (Falchetti 1997; 2001) (Fig. 21).[20]

In Uwa ritual, cotton cloth represents protection for germination. A small textile covers the basket where the symbolic embryonic development of the offerings occurs, and represents male protection for a process of transformation that is mainly feminine (Osborn 1995: 294). Sixteenth-century sources report that small pieces of cloth covered the offerings in Muisca sanctuaries (Falchetti 1997; 2001).

Among the different types of sanctuaries and offering sites are cultivated plots, the very center of seed germination. Lakes as well as temples and huts where offerings are deposited, are associated, in Uwa mythology, with the beginnings of life in the universe. Deities built "the house of the world" as protection for the "womb-lakes,"[21] where they sow the "seeds" of plants, animals, and people that germinate the world.[22] Offerings at lakes and at houses perceived as wombs fit the concept of the offering as a seed that germinates symbolically in

[20] For the Uwa, the image of the ceramic vessel is feminine, because it is the place where embryonic development occurs. The seashells are related to the underworld, a place of female fertility.

[21] These ideas are shared by other Indian communities, such as the Ika of the Sierra Nevada de Santa Marta, who believe that the lakes are the womb of Mother Earth, and as such are places where people must deposit offerings to her (Tayler 1997: 27), and the ancient Muisca, for whom the lakes were sanctuaries of supreme importance.

[22] See Uwa myths in: Márquez 1981: 53, 176; Osborn 1995: 163.

Fig. 21 Muisca clay container with offerings. Museo del Oro, Bogotá. H. 7.7 cm.

those places, reproducing the actions of the deities in the myths that explain the creation of the world. Through the offering, people encourage and protect the continuity of life in the universe, nature, and society.[23]

In this context, the offerings of gold, copper, and gold-copper alloys made in the past, would represent "seeds" or "embryos" with special properties, that germinate symbolically. As previously mentioned, native metal was used as an offering, and according to sixteenth-century documents and some archaeological finds many sanctuaries belonging to Muisca individuals contained tejuelos—the small ingots formed in a process of embryonic transfor-

[23] The association of the offering with the seed and with the multiple elements described appears among other communities related culturally or linguistically to the Uwa, suggesting close ideological similarities (Falchetti 1997). The Ika and Kogi maintain the tradition of making offerings in special sanctuaries. These are placed in bags and wrapped in maize leaves. The offerings include small seashells, representing female fertility, and stone beads of assorted colors and shapes that have various powers (Preuss 1993; Tayler 1997; Reichel-Dolmatoff 1981; 1985). Many of them are said to protect people against illness and death; others are "seeds" that encourage the fertility of the earth, people, animals, and plants. In the Cordillera de Mérida (Venezuela), the Indian groups referred to in the Spanish chronicles as *Cuicas* had sanctuaries in small huts where they kept offerings of colored stones, cocoa seeds, cotton thread, and salt wrapped in "small cotton mantles" (Simón [1625] 1981, 2: 103). The small colored stones have maintained their significance among the peasants of Indian origin who live in the area. They believe that these stones are "seeds" and represent a vital force, which is why they are "planted" to fertilize the earth. This belief has its origins in a myth concerning cultural heroes who are "planted" in the earth (Rangel de Cáceres and Clarac de Briceño 1988: 5–6; Clarac de Briceño 1981: 87, 98).

Fig. 22 Muisca votive figure. Museo del Oro, Bogotá, acc. no. No. 4678. H. 8.4 cm.

mation—and various finished objects of gold, copper, or gold-copper alloys (Fig. 22). Metal offerings included elements in different stages of embryonic transformation.

On a general level, some associations of metal offerings can be analyzed based on ethnohistorical and ethnographic information. A 1595 document describes many Muisca sanctuaries. Two of them, belonging to a woman, contained caches with offerings of emeralds and figures made of gold-copper alloys (Fig. 22) placed in a ceramic vessel and "protected" by small textiles. These were buried in a garden plot:

> we came to a cultivated plot where the said Indian woman brought us . . . and underneath some stones . . . there was a small vessel and inside two *santillos* [figures] of very low grade gold[24] with some cotton and a small piece of a red mantle . . . and then under some other stones we found a small piece of white mantle the width of a palm and some cotton and with it a low grade gold *santillo* and six very small stones like emeralds. (AGN CaIn 58: 19v–20r in Langebaek 1988: 220; see Falchetti 1997)

Spanish chroniclers mention how, among the Muisca, pregnant women offered figures made of gold-copper alloys and emeralds to Cuchaviva, the rainbow deity, to ensure a good delivery (Simón [1625] 1981: 3, 377, 399). The rainbow was associated with the protection of fertility, a symbolism that survives among the Uwa, but this deity is also related to illness (Osborn 1995: 200). In fact, many South American Indian communities associate the rain-

[24] When referring to gold-copper alloys, which in the Muisca area frequently include a high proportion of copper, the chronicles and documents usually speak of low-grade gold.

bow with sickness and with antisocial activities. Lévi-Strauss (1969: 280) analyzed how these negative properties relate to the "short-intervaled" organization of the rainbow's colors. Their continuum, without a defined structure or clear boundaries, involves association with confusion.

Muisca women gave offerings to the rainbow to enhance fertility and birth and to ensure protection against threats to them. Such offerings might also serve to maintain the "right and ordered" components of the human fetus—a constant concern of Indian societies—in spite of the "confusing" influence of the rainbow. This was probably the purpose of the figures made of gold-copper alloys offered by pregnant women. The alloy, representing the balance of the feminine and masculine properties of metals, would help bring the "right and ordered components" to the human life being formed. This explains, in part, the importance of gold-copper alloys and casting techniques for the Muisca, who mass-produced the offerings used to encourage and protect the continuity of the seed of life.

Conclusion

In studying Amerindian societies, the properties of metals should be seen in the context of life continuity, transformation, and regeneration in accordance with their mythic cosmological schemes explaining the primordial organization of the world as a "gestation in the Universe." The symbolic qualities of metals, their combinations, and their transformations reproduce cosmological schemes linked to the model of the human life cycle. The male and female properties symbolized by metals are mixed and balanced in alloys. Metals are associated with seeds or embryos that undergo a process of transformation through metallurgical processes.

These qualities, mixtures, and transformations, which represent the continuity of life, are manipulated by human beings through metallurgical processes that are seen as supernatural, for they reproduce cosmological and biological cycles and the ordering of the world performed by the deities, as referred to in the myths of origin. Through such actions, humans encourage and maintain the continuity of life in the universe, nature, and society, actions perceived as a responsibility of humanity. This power to control the universe and ensure its equilibrium, is interpreted as a "magical power," to borrow James Frazer's (1978) definition of magic as the belief that man can intervene in natural processes to complete or modify their courses.

These concepts are expressed in the functions of metal objects associated with their magical powers, which are transmitted to humans during ritual and social occasions. This is the case of the religious offerings that represent seeds that germinate symbolically, and through which people encourage the continuity of life, and of some ornaments used during marriage ceremonies and in trade as symbols of "correct" marriage alliances upon which social survival and identity are based.

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Just: Justicia

AGN Archivo General de la Nación (Sala de la Colonia), Bogotá

CaIn: Caciques e Indios

MisCol: Miscelánea Colonia

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Gold in the Everyday Lives of Indigenous Peoples of Sixteenth-Century Southern Central America

Eugenia Ibarra

> (1563) (Juan Vázquez de Coronado) "as best he could, received said presents [gold pieces], giving in trade a great amount of axes, glass beads, and other things; which they received with great pleasure since there is trade among these natives and they value this metal highly for use in their trades" (Fernández Bonilla 1886a: 374)

Introduction

The subject of gold objects from southern Central America has been of great interest to archaeologists, art and other historians, and the general public for a long time. Small figures—skillfully decorated objects now in national and foreign museums, in private collections, and in the hands of individuals—have been discovered more as a result of plundering than of archaeological investigation. Such figures are important in the documentary sources for the contact and colonial periods. Those documents help in reconstructing the social, political, ideological, and natural worlds of native peoples, including their daily lives, and the sociological and historical contexts of their times. Such information makes it possible to contextualize the information that the ethnohistorical sources offer about gold in the early colonial era.

This chapter explores gold within the context of the sociopolitical and supernatural worlds of sixteenth-century southern Central American natives. Within this framework is an examination of gold's role in daily activities and how it functioned variously as a symbol of identity, wisdom, and knowledge and at other times as a generator of ethnicity. The Spanish destroyed this indigenous system during their conquest, with gold playing a crucial role in this rapid cultural change.

Methodological Considerations

Studying gold in southern Central America necessarily involves investigating the logic

behind the organization and order that people gave those objects of gold in light of the sociopolitical and cultural dynamics of their times. Naturally, this involves analyzing trade activities involving gifts and gifts offered in reciprocity in all sectors of society.

Some investigators have tied particular gold objects to magical-religious uses or sociopolitical functions related to rank (Ibarra n.d.a; 1990; Cooke and Bray 1985; Aguilar 1988; 1997; Fernández and González 1997; Fernández 1995; Corrales n.d.). Such interpretations appear to be strongly influenced by the words of William M. Gabb, who visited Talamanca in 1874:

> I had the opportunity to bear visual witness to the [funeral ceremonies] that were made for an old man who died at Urén. He belonged to a *distinguished family:* one of his ancestors, perhaps his father, had been one of the leaders during the war with the Tiribí, and he had inherited and possessed one of the few gold "eagles," or "*insignias of rank*." (Gabb 1874: 125) (emphasis added)

This quotation's focus on gold use by men inhibited researchers from making any connection between gold and women for a number of years. Generally, research has only viewed the tip of the iceberg in the sense that it has been trying to interpret the function and significance of gold objects only in relation to elite natives in hierarchical "rulerships."[1] Other contexts for gold use have been ignored. Documentary sources are rich in information about elite connections to gold but evidence exists that other members of southern Central American societies also had access to gold and that this metal played a role in daily life, including in exchanges and trade among common people.

The different forms and designs of gold objects likely signified the position within a hierarchy of the individuals who wore them (Ibarra 1990: 126; 1991: 9–10). Doubtless, some gold objects also held magical-religious meaning. The sources that support this study, the methodology applied to them, and a more regional focus suggest that gold also fulfilled other, complementary roles in the daily lives of the natives of southern Central America. Ethnographic analogy has been employed where pertinent. Although there is not necessarily an exact correspondence between past societies and those that survived the Spanish Conquest, the oral tradition of native peoples and ethnographic studies identify important social and cultural similarities among the natives of the sixteenth, seventeenth, eighteenth, nineteenth, and twentieth centuries, particularly in the case of the Bribri of Talamanca.

The evidence here is based on primary sources in document collections and on works focusing on the conquest and colonization of Central America. The majority of these date from the sixteenth century, with the exception of those dealing specifically with Costa Rica,

[1] The Spanish used the term caciques (chiefs) generally to identify a person who occupied a position superior in rank to the rest of the population. What these positions consisted of or what their titles or activities were is unknown. Among the Bribri and Cabécar in Talamanca at the beginning of the twentieth century, such "chiefs" were divided into the *usékol* (*usékar*), high priest; the *bikili*, interpreter between the usékar and the village; the *bulu*, king or chief, the *awá*, medicine man; the *tsokol* (*isogro*), bard; the *okom*, burial priest; the *sia'tmi*, caretaker of the medicine man's stones; the *bikakla*, head of ceremonies; and the *tsuru'okom*, distributor of cacao (Jara 1993: 30). Whether the same designations existed in the sixteenth century remains unconfirmed.

where the conquest occurred later, and some important twentieth-century sources. The documents primarily concern the processes of "discovery," Spanish conquest, and, in some areas, colonization.

The Spanish often noted where they had traded or taken gold, and the place names still pertain or the areas are easily identifiable. The Europeans also recorded the objects they took—"eagles," disks, anthropomorphic figures, *muñecas*, and the like. The conquistadors also distinguished between what they called "good gold" and "low gold." The former consists of objects of high gold content and low amounts of alloy metals, whereas the latter refers to alloys usually of high copper content (*guanín* or *tumbaga*). While the Spanish sometimes mentioned places where only low gold was to be had, it is possible that such locales may have also gone unreported in some instances. These reports on gold, its forms, and the many locations where it could be acquired provide valuable information about precious metals in native south Central American societies at the time of Spanish contact and conquest.

Carlos H. Aguilar proposed an archaeological zone for the distribution of gold in Costa Rica and Panama that he at first called the Tumbaga Isthmus (1972) and later dubbed the Guanín Isthmus (1998). Based on his study of the Banco Central de Costa Rica's Museo del Oro collection, Aguilar demarcated this area as the territory between the San Juan River and the edge of Nicaragua's La Mosquitia, with the Guanacaste mountain range to the east, by the southern cone of Mesoamerica to the north. At the extreme south are the Panamanian provinces of Coclé, Panama, and Darién. Aguilar does not, however, exclude regions of Colombia. On the contrary, he suggests that similarities are to be expected in the patterning of "gold and guanín areas despite the cultural diversity of the inhabitants" (Aguilar, personal communication, 1998).

Gold at the Conquest

Friar Ramón Pané first defined the term guanín, observing that the Taíno of Hispañola had metal ornaments shaped like disks that, when small, were used as earrings, but if large, were used as pectorals. These were made from a gold-copper alloy with a gold content of less than twelve carats.[2] In general he used guanín to mean a low gold in pieces that he called mirrors (Szaszdi 1984: 19; Pané 1988: 8–13, 61).

Columbus, familiar with guanín, had no trouble identifying it in 1502 in Cariay and other parts of the Caribbean coast. He commented that the people walked around naked, with a mirror at their necks, which in Carambaru they were unwilling to trade or sell (Fernández Bonilla 1975: 22). He added that the people sent him "well-adorned" girls who possessed concealed magic powder. Hernando Columbus wrote that the girls wore guanín objects around their necks, but he did not specify their forms (Lines 1952: 155). Bartolomé de las Casas, who was not himself a witness to these events, declared that these objects were

[2] Documentary sources from eighteenth-century Costa Rica indicate the use of tumbaga among Spanish women in rings, buckles, and bracelets, although these objects' origins are unclear (ANCR: Protocolos de Cartago no. 960, f51.14v [1772] and no. 958 f21.30 [1770]).

"eagles"[3] (Fernández Bonilla 1975: 19). This citation is the only source that mentions a female wearing a gold eagle around her neck; it is perhaps not to be fully trusted. In southern Central America, the Spaniards began to refer to guanín objects worn around the neck as "medals," because of their similarity to ornaments of the Catholic faith.

The word guanín began disappearing as the conquest of the region advanced, eventually being replaced with "gold," "worked gold," "low gold," and "fine gold," to which were added additional descriptions related to its value or weight. In foundry documents from between 1514 and 1528, this gold and copper alloy was known as "weights of golden copper without fineness," "guanín without fineness," and "guanín copper" (Góngora 1962: 108). In 1519 it was defined as "a very low gold containing copper that often after smelting does not have fineness" (Alvarez Rubiano 1944: 511).

Rivers, Mines, and Smiths

How did the natives of southern Central America obtain gold? How was guanín produced in this area? The documentary sources agree that natives obtained gold in three ways: from rivers, with the use of tree leaves and "other trivial tools," probably calabash gourds (*Crecentia alata*) (Fernández Bonilla 1886b: 434); from mines; and through trade with other villages, sometimes in the form of unsmelted nuggets. Searching for gold mines was of primary interest to the Spaniards, who were amazed by the enormous quantity of gold obtainable from rivers (Fig. 1).

In 1502 in Veragua, Columbus found gold in the roots of trees, indicating the presence of alluvial gold (Lines 1952: 165). In 1513 Vasco Núñez de Balboa declared the discovery of thirty rivers in Darién that contained gold. According to Balboa the house of the chief Dabaibe, located two days upriver, was "where all the gold comes from that leaves by this gulf and that the chiefs of these regions have" (Jopling 1994: 23). He mentions rivers with gold in the territories of Careta, Comogre, and Pocorosa in Caribbean Panama. As the conquest advanced, rivers containing gold were found in the Duy Valley, among the rivers of Santiago de Turlurí, at Chiriquí and in the Guaymí Valley (Peralta 1883: 522, 528), at Coctu and Turucaca (Vázquez de Coronado 1964: 51, 52), and in the Estrella River (today the Changuinola and Tilorio) (Fernández Bonilla 1882: 27), to mention just a few. Balboa notes other ways of obtaining gold by the people of Dabaibe:

> The way it is gathered . . . is to wait for the rivers in the gorges to rise, and then after the flow dries up the gold is discovered left behind. It is big, in nuggets as large as oranges or fists. Or they set fire to the dry grass on the ground and then go to collect the gold nuggets. (Jopling 1994: 23)

[3] For the purposes of this study, the term *eagles* in general refers to an object shaped as a bird, although I am well aware that scholars have identified other flying birds, including buzzards, and hummingbirds (Aguilar 1972; Helms 1979; Cooke 1985; Corrales n.d.). The same holds true for the "medals," since the sources only distinguish them as larger or smaller, while archaeologists have identified variations (Aguilar 1972; 1998; Falchetti 1995).

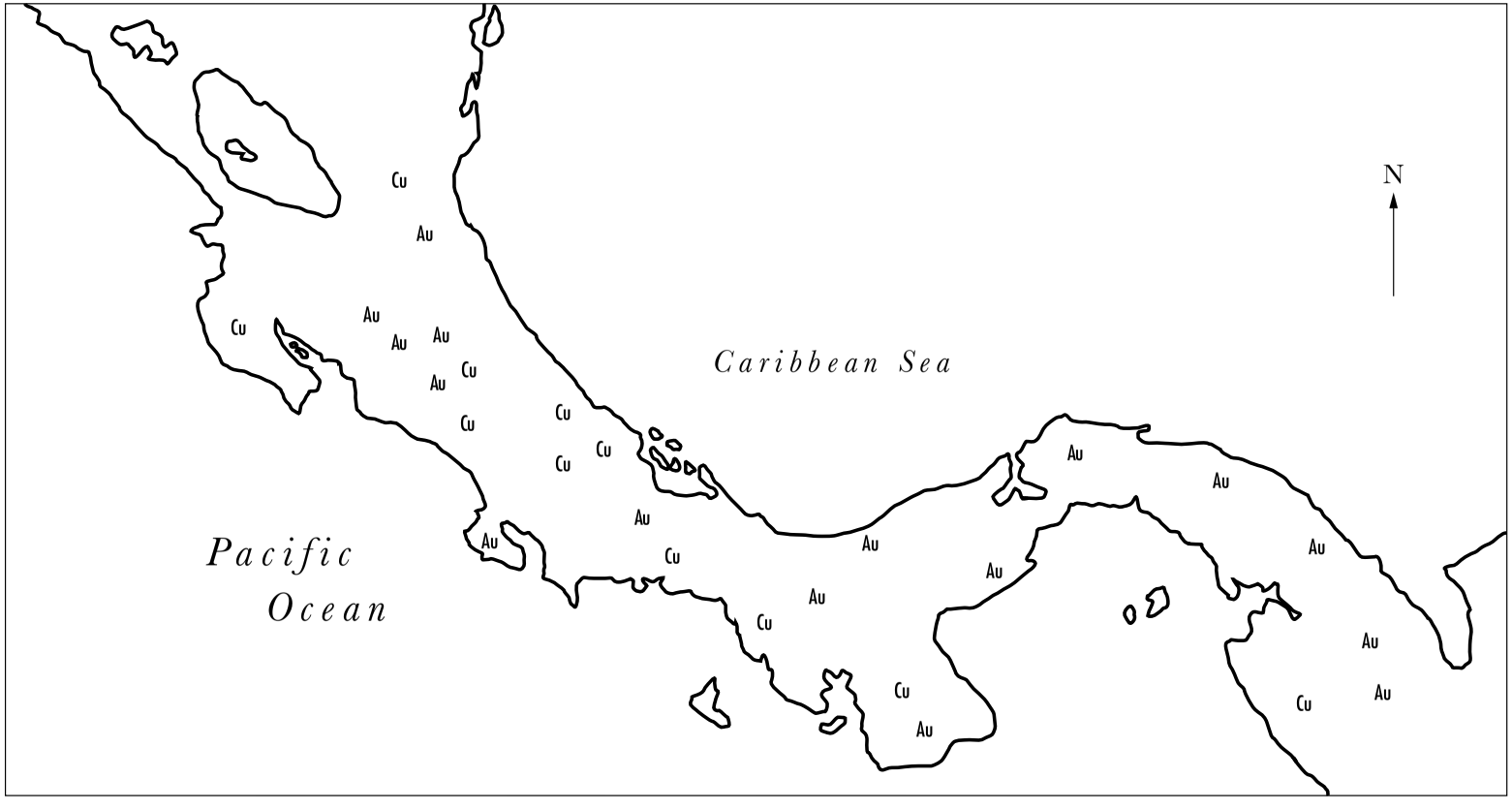


Fig. 1 Gold and copper deposits in southern Central America. Map by Eugenia Ibarra (after Comisión del Atlas de Panamá, 1965)

Gold from mines was more difficult for the Spaniards to locate (see Cooke, this volume). Although information is scarce, in 1515 there were thought to be mines 50 leagues to the east of Darién, in Mocli and Tarufí, in the vicinity of Urabá (Alvarez Rubiano 1944: 434; Góngora 1962: 110). Other data from 1520 point to mines "at Chira," which may refer to the present-day Abangares mines in Costa Rica (Vega Bolaños 1954: 87); from 1527, at Santa María de la Buena Esperanza in Nicaragua, about 25 leagues from León (Peralta 1883: 716); from 1528, around Chiriquí on lands belonging to Chief Bacari (Góngora 1962: 122); and from 1529, around the Belén River and Nombre de Dios, Panama (Fernández de Oviedo 1977: 477–478). Documentation revealing how the natives extracted gold from mines is to be found, but in mines operated by the Spanish in Nicaragua gold was obtained using native and enslaved manual labor. Available sources indicate that the natives of southern Central America obtained gold primarily from rivers and through exchange systems. The important role that exchange played in gold's acquisition cannot be overstated.

Guanín was made by melting gold in clay crucibles and adding copper, a well-known process. Copper is mentioned infrequently in the documentation. In 1577, Diego de Artieda confirmed the presence of copper and *alambre* in the area surrounding Almirante Bay (Peralta 1883: 548). According to Adam Szaszdi (1984: 19), alambre is an alloy of gold and copper in which copper predominates, that is, gold of less than twelve carats, or guanín. Columbus also refers to alambre. The following quotation from 1610 describes how guanín was made:

> And considering the gold in the pieces I mentioned, the carats are lower since their low skill level forces them to make an alloy of copper and [gold melted in clay crucibles] in order to cast them, [and to work them into different forms] it must be of less fineness. But in the case of medals, since they only hammer and spread them without need of alloys, the fineness of the gold increases to twenty-two carats. (Fernández Bonilla 1886c: 158; Peralta 1883: 699–700)

Columbus also notes

> "riches fixed and deep in all the mountains in the provinces of Térrevi el Grande and Térrevi el Chico, occupying more than 20 leagues along the Almirante Bay. The principal amount of gold is in the hills of Corotapa on that same bay at the point where the Estrella River enters, a wondrous river." (ibid.)

One must suppose that the riches in the mountains around Almirante Bay refer to copper which can still be found there today.

Judging from all the available information, between 1500 and 1629 guanín could be found in the region of Urabá, in the northeast of Darién, on the coast and islands of Mar del Sur, in Nata, Coclé, Cohíba (Cueva), the Pacific coast of Costa Rica, Caribbean Panama, Veragua, Almirante Bay, Caribbean Costa Rica, including Talamanca and Térrevi (Terbi), the islands of the Gulf of Nicoya, the Isthmus of Rivas, and the chiefdoms of Nicaragua. It was distributed throughout the area in question, suggesting that guanín was valued and appreciated similarly by all of its users. Its distribution supports the name that Aguilar gave to this area—the Guanín Isthmus. Some of the meanings that gold had in the early colonial era

seem to have been understood equally by all the different ethnic groups that used it, although it is probable that their motivations for using it were varied.

Who worked gold? Only chiefs? Previous investigations reveal a close relationship between chiefs and gold, leading to the proposition that these men were the primary goldsmiths, particularly in light of an account by Vásquez de Coronado in which he declares that the chief of Couto had made some eagles himself (Ibarra n.d.a: 167–171). Despite evidence strongly associating chiefs with gold, several other accounts cast doubt on whether chiefs alone produced gold. For example, at Dabaibe the chief had "a hundred men who continually worked gold" (Jopling 1994: 23). Were these hundred men also chiefs, however? It must be remembered that not everyone has the skill and ability required to be an artist, especially a goldsmith.

María Eugenia Bozzoli has uncovered clan specialization among the Bribri. For example, the *inokÖLdiwak* clan were "masters of an abundance of money or gold." This information supports oral tradition of the Bribri that states that the god Sibö designated clans to specialize in different gold figures and in other activities (Bozzoli 1972: 178; 1979: 41–49). Without a doubt, some goldsmiths came from such specialized clans. These people, probably male, likely transferred their specialized knowledge of gold technology and decoration to other men from their clan as well as to others who showed an aptitude for goldsmithing. There must have been some form of control over this process, but at present it is impossible to determine what it was. According to one theory, by Gordon R. Willey (1984: 374), it is possible that these "masters" may have come from distant places.

Gold Objects: Types and Function

With the aid of linguistics and archaeology, it has been possible to identify many of the gold jewelry styles produced by the natives of southern Central America. Thus far twenty-six different types of objects have been so identified. Among the most important are eagles (including some with two heads); "small idols, small men, and statuettes"; medals (or disks); beads and small tubes for necklaces; nose rings; armor; diadems; bracelets; small flasks (*limetas*) similar to perfume bottles; objects with hanging parts; bells; earrings; and animal forms, including toads, spiders, and lizards, among others.

In the case of the eagles, various accounts describe them as "small royal eagles" or "royal eagles" of fine worked gold (Vázquez de Coronado 1964: 48), but distinctions are not discernible from the source documents. The fact that these objects were given by different chiefs as gifts suggests that chieftain's eagles had different attributes, perhaps based on rank or ethnicity. What is clear is that some were more "royal" than others.

"Small idols" likely refers to anthropomorphic pieces that are part human and part animal, which Aguilar calls "shamans" (Aguilar 1997: 55, 58, 65, 66). These appear to have belonged to religious specialists. They are recorded as coming from "temples" or "chapels" or the homes of people with magical-religious functions, thereby suggesting that they held similar properties.

> [T]his witness saw two gold idols, one belonging to the master of the province and the other to . . . this witness. When he tried to sell the latter to some Indians, they said that it was an idol from a temple, and since it belonged to sorcerers they did not want to buy it. (Fernández Bonilla 1882: 152)

This bit of information seems to indicate that some objects had particular functions, in this case a religious one associated with sorcery, and that a relationship existed between this piece and some person considered to be powerful and "dangerous" by the local population.[4] This reference also vaguely hints at a hierarchy of gold objects.

It seems clear that certain types of objects were associated with different civil and religious ranks and perhaps with other objects. Some were intended for religious uses, others had civil purposes, but each filled its role without losing all characteristics of the other. Doubtless the small idols were used by people in charge to manage "forces" and "powers" beyond those that concerned the general population. These objects held such "power" that persons not authorized or prepared to touch them did not dare do so out of respect and fear. Friar Agustin de Cevallos asserted that the natives of Talamanca "had idols and priests that seemed more like sorcerers to those who were familiar with the Devil" (Peralta 1883: 698).

Regarding such idols, upon the arrival of Gil González in 1522, the chief of Nicoya gave him gold in the form of small idols (Fernández Bonilla 1881: 61), probably obtained from villages to the south. In this case, the chief did not present eagles or medals, possibly indicating some ethnic or cultural differentiation from his southern neighbors.

Rank insignia medals probably possessed power as can be inferred from the following quotation from 1556:

> After the captain and the people who had gone with him to kill the Indians surrounded them, Yñigo López Carrillo killed two of the Indians with a crossbow, one of whom wore a gold medal at his chest. As soon as that Indian was killed, all the other Indians ended their siege of the Christians and went away. For that reason this witness believes and is certain, as are all those who went there to conquer them, that the Indian with the gold medal must have been the leader of all the others. (Fernández Bonilla 1886: 448)

In this example, from Veragua, the leader's medal carried the power inherent in the role of a war chief. In Mexico and Peru, when the leader of a battle died, his army withdrew immediately as well. In Talamanca, the *awá* (shaman) Arturo Morales Pita told Bozzoli that his grandfather had told him that for the Bribri, the death of the chief was an indication that victory for the enemies was preordained (Bozzoli, personal communication, 1999). Once the medal holder died, the medal itself most likely preserved the vital power associated with the person's role of war chief as was the case with ritual objects of the *awapa* or *usékar* (high priest) in Talamanca.

[4] In the case of Talamanca, the "chapel" mentioned likely was not really a chapel, but the house of an important person, such as a chief. There was a great amount of gold, pearls, and beads that "since it belonged to sorcerers" certain natives refused to touch (Fernández Bonilla 1886: 152). I appreciate the help of Marcos Guevara in interpreting this quotation.

Boruca legends and oral tradition reveal similar associations.

> The Boruca had an object like a plate, made from gold and very large, that they liked to use when they were in battle. At that time, the Boruca would aim the object at their enemies to blind them with the reflection of the sunlight so they could not see well. In the meantime they would take the upper hand in the battle. . . The Boruca had with them the golden plate and with it they conquered their enemies. (Constenla Umãna and Maroto 1986: 79)

The "golden plate" likely refers to a disk; and the same significance can be attributed to the objects mentioned in both texts above. Its sacredness may be the symbolic linkage between the shiny metal, its shape, and the sun (see Saunders, this volume). Likewise, wearing a gold object around the neck seems to have been a symbol of authority, as can be inferred from statement made in 1515, when at Darién, Pedrarias Dávila ordered that gold be smelted to make a chain for him to use when he went to visit the chiefs of Comogre, Pocorosa, and Tubanamá so that "the Indians would see his authority" (Jopling 1994: 89). In other words, Pedrarias adopted a symbolic system that the natives could understand. This reaffirms the relationship between power and certain gold objects among southern Central Americans.

It is important to analyze documentary evidence about the relationship between women and gold pieces. With only a few exceptions, possibly due to errors in the sources, the intentions of the conquistadors, or the effects of the conquest, it does not appear that women in general took part in the exchange of small idols, eagles, or medals.[5] The handling of such objects, starting with production, overwhelmingly appears to have been a male activity. An *awá* told Bozzoli that women could touch such objects as long as they were ritually prepared to do so. In general, he was referring to his wives or nieces (Bozzoli, personal communication, 1999). Perhaps it was the same centuries ago.

There does exist limited documentary information describing women as "donors" of gold, providing objects to the conquistadors using their husbands as intermediaries. These cases involve wives of chiefs or leaders, but not common women. It is unknown what form this gold took, and the scarcity of documentation does not allow for speculation. On the other hand, female natives on *encomienda* in Darién and Panama had in their possession (or could acquire) beads and tubes for necklaces and nose pieces or nose rings, which they gave as gifts or traded with *encomenderos*, perhaps in place of labor. Spanish women were involved in the gold trade in the early colonial era, and by their own dealings with natives or chiefs under their husbands' authority or by their husbands' means the women obtained small gold pieces that they melted down to make gold necklaces and bracelets (Alvarez Rubiano 1944: 663; Jopling 1994: 92).[6]

References to gold armor probably refer to a group of pieces that chiefs used on special occasions, such as during wartime or for burial, when they were laid out with it adorning

[5] I refer especially to natives on encomienda in Panama (Jopling 1994: 87, 90, 98).

[6] There is no evidence in documents from the sixteenth through the twentieth centuries that Spanish women wore native jewelry (Carmela Velázquez, personal communication, 1999). This custom may only have originated around the middle of the twentieth century.

their bodies (Jopling 1994: 31). This likely included a helmet or basinet or some type of hat, a pectoral, a diadem, and other pieces that could be worn on the ears, arms, waist, and legs. In some parts of Colombia, however, there are objects that are clearly described as being armor (Clemencia Plazas, personal communication, 1999).

There is no direct information linking type and function for gold objects such as frogs, toads, and lizards. These are described as trade objects that natives from Talamanca took to Térraba (Fernández Bonilla 1886c: 158), although they are also reported as seen briefly at the Gulf of Urabá and Veragua. These representations may have been related in daily life to sacred knowledge for the propitiation of good omens for agriculture, hunting, war, and other activities for the benefit of society in general. They may also represent important mythological figures (Corrales n.d.). Limetas are mentioned only in relation to the Azuero Peninsula and the Gulf of Urabá. Since they resemble bottles used to contain powdered lime for the chewing of coca leaves, their use could be related to narcotics consumption, as is the case in other areas of Colombia.

Trade and the Power of Objects

Population studies suggest that the territories of Costa Rica and Panama were home to approximately 2,200,000 inhabitants (Kramer, Lovell, and Lutz 1993). Their societies were organized into chiefdoms (Fig. 2) and exhibited hierarchical differences based on size, power, and access to resources and lines of communication. The area was culturally diverse. Clothing, jewelry, languages, ceremonies, and other aspects of daily life, as well as physical appearance and skin color, served to contrast various groups, such as the Cueva-Chocó and the Guaymí (Ibarra 2001).

The peoples of the area also shared cultural elements—common languages such as Huetar in central Costa Rica. Common languages are also thought to have existed along the Caribbean coast of Panama and into central Panama, allowing more efficient communication between chiefdoms during the course of daily life.

The documentary sources indicate that the inhabitants of Central America had a vast knowledge of geography—their own and beyond their borders—and of other ethnic groups in distant lands. The inhabitants of the Guanajas Islands in the Gulf of Honduras gave Columbus directions to Veragua (las Casas 1986: 274). Between 1519 and 1544 Mesoamerican groups paid occasional visits to various points on the Caribbean and Pacific coasts, apparently with the objective of trading goods or taking prisoners (Ibarra 1995; Jopling 1994: 32). Visitors from the Pacific regions of South America, Ecuador, and Colombia arrived in Panama in boats filled with trade goods (Ramírez 1995: 139). Informants from Cariay, on the Caribbean coast of modern-day Costa Rica, told news about people further down the coast. Judging from the evidence of such contacts and trips, it is not difficult to imagine the enormity of "commercial" activity in southern Central America in 1500.

In examining trade in the area, it is useful to classify goods as alienable and inalienable

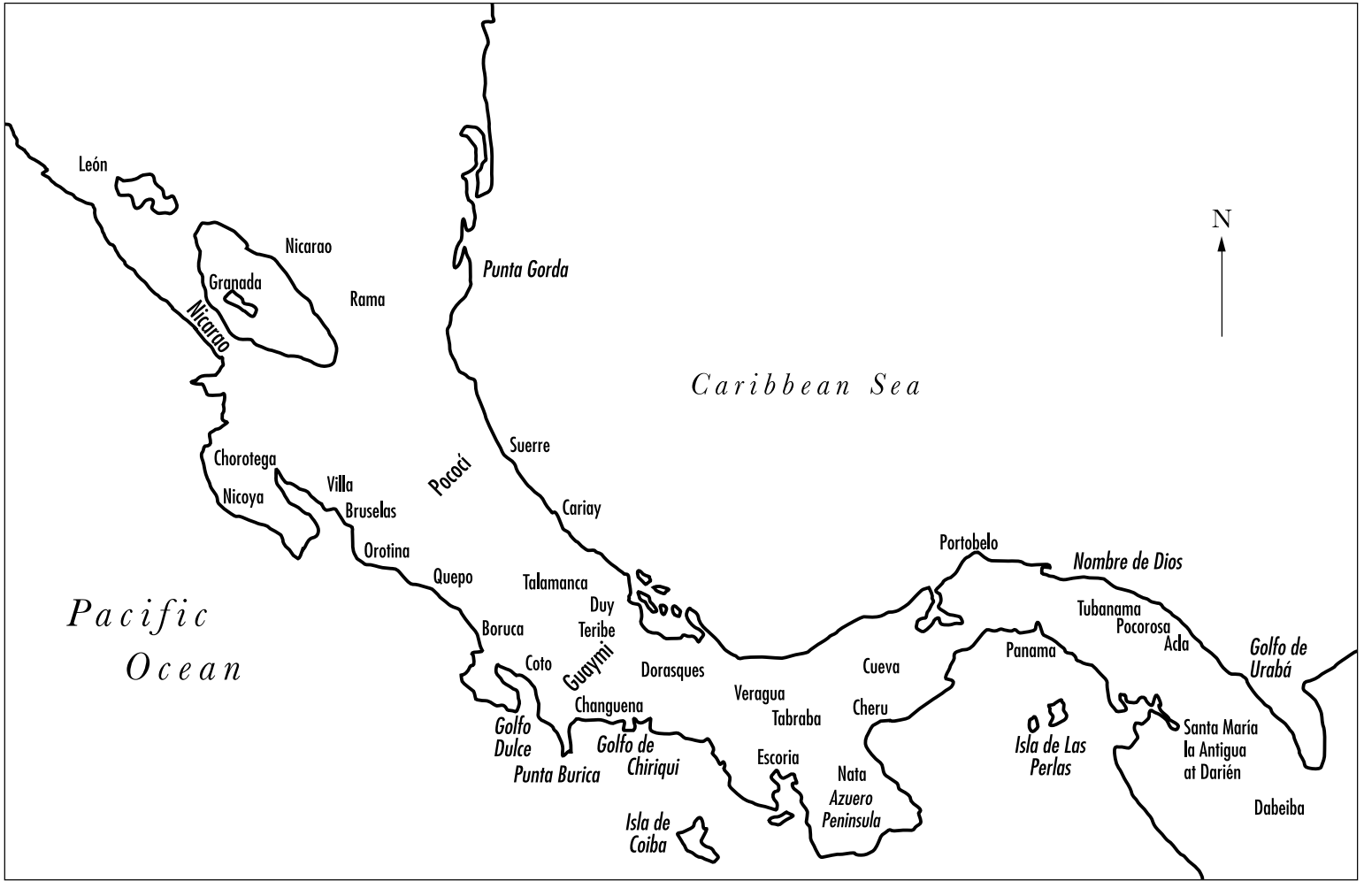


Fig. 2 Spanish and native settlements in sixteenth-century southern Central America. Map by Eugenia Ibarra

objects, as Maurice Godelier proposed, based on his careful revision of Marcel Mauss's theories about the Baruya of New Guinea (Godelier 1998a: 157–207).[7]

Among the Kwakiutl, Mauss identified two levels of wealth represented by two types of copper goods: one, the most important, did not leave the family and remained permanently within the clan; the second type, called secondary copper goods, were accessories to the first type, had a second-class status, and traveled from chief to chief and family to family between generations and sexes as potlatch gifts. Mauss, however, did not explain that the most beautiful and oldest copper objects were not part of the potlatch, because they were considered sacred gifts of the gods and spirits and were associated with the most prestigious levels of rank. Among the Baruya, similar sacred objects are associated with the Great Men, the masters of initiation and masters of the shamans (Godelier 1998b: 16). This is the basic concept of inalienable and alienable goods. Inalienable goods are never given as gifts, but are instead preserved, while alienable goods are used in trade activities as gifts and countergifts (Godelier 1998a: 54, 55).

Preserved objects maintain their identities through time, thus maintaining differences in identity between individuals and groups who, through trade, want to situate themselves in relation to others in neighboring societies. These differences in identity constitute a hierarchy, and in this process of producing and reproducing hierarchies among individuals, groups, and societies, the strategies of giving and preserving fill distinct but complementary roles. Preserving certain items is always necessary (Weiner, cited in Godelier 1998a). Godelier observes that preserved goods have every possibility of becoming more powerful and, as a consequence, of greater symbolic value. One finds that in societies with such outlooks, the social formula is not to preserve in order to give, but to preserve in order *to be able* to give and to give in order *to be able* to preserve. Society is therefore neither the sum of the alienable plus the inalienable nor the juxtaposition of both spheres. Society is only born and maintained by the union and interdependence of these two spheres as well as by their relative differentiation and autonomy. The sphere of political relations revolves around the possession and use of sacred objects that every clan carefully preserves and is unable to give or to trade.

In the dynamics of trade, being indebted to others and having others indebted to oneself are essential elements connecting trade-linked groups and are indispensable to maintain trade. The debt generated by a gift, however, is not annulled or suppressed by an identical gift, since the item given has not been completely separated from the gift process, carrying with it something that forms part of the being and identity of the one who gives it. For this reason, givers no longer have any rights over an object after presenting it, obtaining instead a

[7] I must clarify that although the Baruya of New Guinea are located far away from the villages under discussion here, they are useful for comparisons with the people of southern Central America based on similarities between their trade activities, such as the type and function of objects traded, and between some aspects of their social organization. For example, the Baruya have some commonalities with Talamanca: they are both organized into clan-based hierarchies, some of the customs practiced by women during menstruation are similar, men are associated more with the forests while women are associated more with cultivation of fields and plowed spaces, and neither culture gives away its land.

series of "benefits." At the same time, recipients of a gift allow the giver certain rights over themselves.

Godelier, following Mauss, recognized that objects have two characteristics: force, or power, and soul, or spirit. An item given as a gift has a "force" originating from the relationship that ties it to the person who gives it. This creates a "double" relationship, because the giver remains present in the item in the form of a "force" of rights that continues exercising itself over the item and, through it, over the person who accepts it.

As Godelier states, "items are not transferred without reason, nor by their own power" (Godelier 1998a: 149–150). In other words, giving and reciprocating with a similar object represent the most simple and direct form of producing dependency and solidarity, preserving the status of persons in a world in which the greater part of social relations is produced and reproduced through the institution of bonds between people. A gift followed by a countergift constitutes the elemental essence of the entire practice of the gift and is the minimal exchange needed for the practice to make sense.

According to Godelier, as part of the dynamics of gift exchange, it is necessary to consider the intentions of the individuals to produce or reproduce among themselves social relations that combine solidarity and dependency. These relationships between items, individuals, and societies are similar to the thoughts and activities of the inhabitants of southern Central America. Godelier's classification of objects in the life and society of the Baruya highlights these phenomena. He divides them into three catagories: objects that are preserved, or sacred objects; monetary and "quasi-monetary" objects that are traded; and "value" objects that are given as gifts. Baruya sacred objects are inalienable in that they cannot be traded; there is also concern in keeping them within the clan. Such objects may be used in ceremonies and special rituals. Monetary or "quasi-monetary" objects are represented by salt extracted from the ashes of a cultivated plant (Godelier 1998a: 199–201). Salt is considered a source of power that accumulates in the liver, an organ full of blood. It is associated with male sperm and for that reason, salt is manufactured only by men; fields of salt cane grow along the Baruyas' riverbanks.

Within a tribe salt is for distribution as a gift through relations of kinship, neighbor, and co-initiation. It is never traded as merchandise within these circles. The majority of salt, however, is produced as merchandise for trade with neighboring tribes. The Baruya regularly embark on two- or three-day expeditions after painting their bodies with magical signs to protect them from enemy sorcerers and evil spirits, traveling to the camps of friendly tribes that offer them hospitality and protection and who likely had been enemies yesterday and could well be enemies again tomorrow. This trade among the Baruya takes place in front of the neighboring tribes' doors in a space that functioned during that time as a zone of peace and trade. The Baruya exchange their salt for various types of goods: productive goods (bows, arrows, etc.); social goods (feathers, large shells, ornaments and artistic items needed to decorate initiates, marriageable women, warriors, etc.); goods for daily use (animal hide cloaks, braided cord nets); and small peccaries.

To the Baruya, salt differs from other types of traded merchandise in that it is the only

good that can be traded for something else, making it a kind of proto-money. Godelier points out that salt serves as "money" for another reason: in the eyes of the Baruya and neighboring tribes, salt contains a magical-religious, vital force and is therefore akin to sacred objects.

The Baruya and their neighbors use salt in ritual contexts, although these rites vary from group to group. On special occasions, salt can be given as a token to seal a peace treaty. Such salt bars serve as reminders and testimony of political agreements.

The tribes that "buy" salt do not use it as a privileged means of payment in their own trade nor do they produce more salt than is necessary to obtain goods that they do not produce themselves or produce in insufficient quantities. They never produce salt to hoard it or to obtain merchandise to resell for profit. If salt is in a certain sense a money, it is "money" that never functions as capital. Baruya salt, although it is the only merchandise traded for any other needed goods, never ceases to be a trade object. While it is certainly a privileged object of exchange, its trade value is not distinguishable enough from its use value for it to be considered money in the strictest sense.

Among the Baruya, objects of value are given as gifts. They can be obtained with salt or other types of goods, such as smooth shells or mother-of-pearl, though in a much more limited form. These objects—such as shell necklaces that are given to sons or daughters when they are born or married—also contain a magical-religious power linked to the reproduction of life. Although gifts such as these necklaces have great value attached to them, they remain different from sacred or monetary objects.

Objects in Southern Central America

Sacred objects, power, and religion

Southern Central Americans of the sixteenth century also possessed sacred, inalienable objects. The Talamanca had cult objects that correspond to Godelier's observation that "possession of a sacred object is fundamental to having power" (1998b: 17). Within this category are chiefs' command staves, feathers, and other objects, such as gold eagles belonging to a particular clan and passed from generation to generation. The power contained in sacred objects comes from having been given to their ancestors by gods. The gods, through gifts, grant distinction upon the ancestors, power that a clan can monopolize. Each clan must use these objects in the service of the entire tribe (or its territory) for such things as making rain or securing the fertility of women. This power generates inequality among the clans based on who possesses or does not possess sacred objects (Godelier 1998b: 18).

There also appear to have been sacred objects among the different medical specialists in Talamanca, possibly indicating hierarchy among this type of object (Bozzoli 1982: 48–66). Usékar relics, stones, and staves remain in the immediate family; small healing stones are preserved and given or traded only among *sukias* (healers) under special conditions.[8] At the

[8] Today the spouses of sisters inheriting these stones pass them down as an inheritance to *awapa* of the same family or sell them to other sukias (Bozzoli, personal communication, 1999).

same time, the possession of such objects among the Talamanca elite suggests a particular conception of what could be understood in these societies as "power," which was associated with the handling of magical-religious forces, garnering propitiation, and establishing relations with supernatural beings for the benefit of all. It therefore seems appropriate that Talamanca leaders were elites who held power based on their training, skills, and roles in society.

Another example of sacred objects can be found in the plumed crest and eagle necklace of Antonio Saldaña, the last chief of Talamanca (see the frontispiece), which the sources state were goods preserved within the tribe. Maurice de Périgny, who visted Talamanca in 1912, observed how the crown of feathers and necklace with seven gold eagles were guarded in Saldaña's house. The necklace was later sold by Saldaña's sister, and its whereabouts are unknown (Fernández and González 1997: 14).[9] That Saldaña's clan guarded his eagles identifies them as sacred objects and conforms to Godelier's theories about possession of a sacred object being fundamental to having power.

What about the eagles that were given to the Spaniards? Obviously they were not considered sacred objects since they were given to "foreigners." This indicates a distinction among eagles that is similar to the Kwakiutl's copper objects. Different forms and qualities of eagles exist, such as those made from guanín or good gold. Thus it is possible that objects of the same form, such as eagles, were given away, while others were not, depending also on the materials from which they were made.

The following fragment from a Bribri myth, collected by Carlos Gagini and studied by Bozzoli, suggests that ethnic identity was involved in the "spirit" of some eagles as well as in their exchange:

> Some Indians went to sell cacao at Cartago. They saw a tapir bathing in a pool, which they hurt with their arrows. The animal fled with the hunters in pursuit. After running some hours, the tapir's path ended at a stone building from which some strange men emerged. They said that the tapir was not inside, but they were willing to exchange gold eagles for cacao beans. The men brought some eagles out of the house and ordered the hunters to keep their distance. They would throw the eagles so the hunters could catch them and the hunters would do the same with the cacao, but they must not drop any of the eagles. And so they did it, but the last eagle fell on the ground. (Gagini, quoted in Bozzoli n.d.)

Based on this myth, Bozzoli studied kinship relations, the dynamics of trade, and the prohibition against incest among the Bribri. From the fragment here, it is clear that eagles—not disks, frogs, toads or small idols—were going to be used in a situation in which the Bribri ("us") wanted to establish an alliance with the men from the stone house ("others"). That eagles were the objects chosen for such an important transaction permits cautious specula-

[9] A replica of the feathered crown was given to the Museo Nacional de Costa Rica in 1957 by native Bribri, who asked that it be placed near the 1892 oil painting of Saldaña displayed there (Meléndez, quoted in Stone 1961: 208).

tion, that the men of the stone house were people with whom the Bribi could also establish matrimonial relations. The eagles may represent a common symbolic language between groups open to establishing kinship relations. This idea might have existed throughout the isthmus and in parts of Colombia. Thus, some eagles were associated with the exercise of power while others might have had qualities for the establishment of kinship relations.

Monetary or Quasi-monetary Objects

Other data allow tentative comparisons of the role of certain gold pieces with that of salt. The goldsmiths of southern Central America have, for the most part, been identified as being male (Vázquez de Coronado 1964: 36), as have the saltmakers of the Baruya. Among the Baruya, salt is traded within the same ethnic group, and in Talamanca in the seventeenth century this was true in respect to gold: the Talamanca offered gold to the Térraba and others, and the Dorasque brought gold to the Térraba and Talamanca. Among the Baruya, salt was distributed through relations of kinship and proximity but never as merchandise within the ethnic group, a practice likely similar to what occurred in southern Central America with gold.

There is little direct evidence of this, but certainly a large quantity of gold was produced for trade with neighboring tribes. As with the Baruya, the natives of these regions regularly left on two- or three-day trading expeditions after painting their bodies with magical signs. Certain trade activities among the Dorasque suggest that in the sixteenth century, some rivers may have been meeting points for "commerce" for the former inhabitants of Costa Rica and Panama.

Available documentation suggests that among the people of southern Central America, gold was exchanged for tapirs, peccaries, resins, and prisoners of war, a category of goods similar to those obtained by the Baruya in exchange for salt. Gold appears to be a type of merchandise different from others in that it alone could be exchanged for other objects, as appears to be the case with salt among the Baruya and with cacao in Mesoamerica. Gold also served in a certain sense to measure the value of exchange of other merchandise since trade starts from stable rates that constitute "prices."

In the eyes of the Baruya, as well as of neighboring tribes, salt serves as "money," because it contains a magical-religious life force unique among sacred objects, a trait similar to the power suggested of gold. Among the Kogi and Desana and among the Uwa of Colombia, goldsmiths transformed metal into objects with ritual and social content that they considered magical and sacred (Reichel-Dolmatoff 1981: 25, 26; Falchetti, in this volume; 1995: 5).

Salt, like gold, appears to be used in ritual contexts. As noted above, salt is given to seal a peace treaty, in such instances serving as a testimony. Perhaps a similar reasoning is why native South Central Americans gave gold to the conquistadors: they sought to seal a political agreement that would allow them to conduct exchange in a peaceful atmosphere.

The natives of southern Central America do not appear to have used gold as a special means of payment in their internal transactions. It also seems that they did not produce more

gold than was necessary for their purposes. Gold pieces kept in baskets in the chiefs' houses were not to make them "rich," but created the possibility of establishing relations with neighboring chiefdoms or with possible enemies, such as Mesoamericans or "strangers" (and enemies) like the Spaniards. Through relationships with these "others," chiefs could obtain important, esoteric knowledge or scarce and rare goods (Helms 1988; Ibarra, 2001).

If certain medals, eagles, and other objects are considered as money-objects, one must take into account various aspects of the categories of such objects. Natives gave eagles and disks to the Spaniards early in the conquest and later. What might these eagles' messages and functions be that distinguishes them from other objects yet at the same time imparts a similarity or complementarity? On the topic of money in Nicaragua, Fernández de Oviedo noted that "[cacao beans] are saved and considered as precious as Christians and other people consider gold and money; these beans are considered so because they can buy all other things with them (Fernández de Oviedo 1976: 67)." Juan Vázquez de Coronado stated that "there is trade between these natives and they value this metal highly for barter" (Fernández Bonilla 1886b: 374). Obviously, the reference to "barter" is to the exchange of gold for other objects. Vázquez de Coronado adds that "said Indians (of Costa Rica) deal and counterdeal using gold medals, eagles, and other objects in that province" (Fernández Bonilla 1886a: 56). Thus gold medals, eagles, and other objects fulfilled an important role, perhaps almost like money, in the transactions that natives conducted with one another in southern Central America.

Objects of Value

As noted, the Baruya traded objects of value for salt and other types of goods, including smooth shells and mother-of-pearl. A shell necklace also was given to sons and daughters when they were born or married, granting them a magical-religious power connected to the reproduction of life. Could this be the case with the necklaces of materials resembling shell that continued to circulate in Talamanca not long ago? It would be argued that pearls, certain feathers, shell beads, and shells belong to this category of valuable objects. Pearls were guarded in baskets in the chiefs' houses. In Panama they were taken from the Isle of Pearls (Isla de Perlas) and transported to the Caribbean, where the chief of Comogre received them (Jopling 1994: 24). Moreover, on some occasions natives gave Spaniards pearls, together with gold, as a sign of peace (Jopling 1994: 26). Shells seem to have been valued in a manner similar to that of *Spondylus* in South America (Sánchez n.d.: 99–101). Natives also used shells to signal the beginning of trade activities (Ibarra, 2001), and among the Uwa they were used in certain other ceremonies and rituals (Osborn 1995: 103). Shells also are prominent in Bribri myths. The Spaniards traded a certain type of shell with Gulf of Urabá natives, who were very pleased to receive it. Doubtless there existed other objects of value beyond those here mentioned briefly, but the sources do not mention them. Future studies may clarify them. What were the relationships between some objects and the dynamics of ethnicity among the inhabitants of southern Central America?

Eagles, Disks, and Ethnicity

What were the relationships between some objects and the dynamics of ethnicity among the inhabitants of southern Central America? At first glance, eagles might appear to be related to aspects of ethnicity. Their use and control by members of the elite suggest as much. Their presence throughout southern Central America seems to indicate some type of sociopolitical relationship among different ethnic groups, since in spite of linguistic differences—Boruca, Bribri, Cabécar, Chánguina, Kuna, Dorasque, Guaymí, Huetar, and Térraba—important trade relations existed in the sixteenth century (Ibarra, 2001).

Genetic studies reveal greater affinity between groups located close to each other than, say, among groups such as the Kuna and Guatuso (Barrantes 1998: 8). Proximity can influence sociocultural distance so the geographical proximity of the Boruca, Bribri, Cabécar, Guaymí, Huetar, and Térraba, combined with their kinship relations, might have led to their choice of a type or types of eagles to identify themselves ethnically. The assorted eagles and disks made from different golds could have indicated hierarchies and contexts for use and function. The diversity of forms and styles of these objects may also have reflected spheres of daily life among ethnic groups and "outsiders," with attendant implications in the meanings and structures of social relations. For example, it is said that the chiefs of the Teribe carried one or two eagles wrapped in bundles and that the Talamanca took the eagles after killing the chiefs. The objects were then presented to the Talamancan chief (Bozzoli 1982a: 2).[10] Perhaps these eagles were distinctive as Teribe eagles, but no further information exists to clarify this point.

Relationships between styles of material culture and the expression of ethnicity vary across time and space. Material styles that in one social context shape the development and meaning of ethnic identity may in other contexts form only part of ethnicity (Jones 1997: 121–122). This may be the case with gold eagles in the sixteenth century (and perhaps earlier) versus their meaning in the twentieth century. According to Godelier, the more intently a sacred object was preserved, the more imaginary power and symbolic value it likely contained. If in the sixteenth century an eagle possessed meaning beyond other types of value, and if the messages it carried were essential in creating and sustaining social relations that supported society, by the end of the nineteenth century and beginning of the twentieth its meaning had changed. By this time eagles had been transformed primarily into "insignias of rank" (Gabb 1981). Among the Bribri they may have signified more than this, perhaps representing ethnic identity for those who had survived the Spanish Conquest. These changes and symbolic reaffirmations may have been affected by internal conflicts among the natives, as well as by other political and ethnic shifts in Costa Rican power structures. In native societies, eagles continued to be considered special, although they had lost their former function as a means of establishing social and political relations with other societies and within southern Central America in general.

[10] These objects were seen by the anthropologist Marcos Guevara B. while he was living in Talamanca in 1983 and 1984 (author's note).

Concepts of ethnicity that some ethnic groups in sixteenth-century southern Central America constructed through the use of eagles likely were tied to origin myths in which a winged animal, such as a buzzard, filled a distinct role in the establishment of social relations that legitimized and oriented daily lives. The same could be said of disks, which perhaps are related to myths about the sun.[11]

There are many influences in the Talamancan origin story related to the "seed" and the sun (see Falchetti, this volume). "The Seed of the Bribri was born when the sun was born," goes the story. A buzzard hawk had come to eat the Bribri. When the usékar was asked what should be done, he responded that nothing could be done because the bird had come with the Seed. God wanted to see if the Seed had power and whether the usékar could send it away. The usékar summoned his power and sent the bird where the sun was born, and there it is today (Bozzoli 1977: 75). It is thus that the Bribri explain their origin (in the sun), their "power," and their continuity and survival through time. Gold, medals, and eagles may well be related to these ideas.[12]

Gold and Trade

The range of environments of settlements and chiefdoms induced variability in the extraction and exploitation of resources. This and differing customs and ideologies encouraged people to trade objects. Sixteenth-century native villages between Venezuela and Nicaragua traded prisoners of war, stone, gold, cotton, pigments, grain and seeds, vegetables and produce, medicinal herbs, honey, and beeswax. They traded raw materials such as deer hides, coral, shell, and gold processed into beads, emeralds, blankets, hammocks, nets, arrows, ceramics, and other objects. Another category of goods included animals, such as tapirs, peccaries, and various birds and dogs. Other goods were utilitarian, such as baskets, sleeping mats, sandals, resins, and painted cups. There were also "nonmaterial" goods, such as esoteric knowledge, that could be exchanged for healing techniques and special herbs. The majority of these goods are the same as those identified by Karl Langebaek for early Colombia (Langebaek 1992: 100–161 and this volume).

The trade of gold objects and nuggets occurred in various contexts and spheres in southern Central America, even among very different ethnic groups, such as the Nicarao, Chorotega, and Zenú (Figs. 2 and 3). Trade probably also occurred between the "Chuchures from toward Honduras," located near Nombre de Dios in Panama and possibly with the Maya and villages located more toward southern Panama, Colombia, and Ecuador, as well as among themselves and with the Spaniards. Documentation suggests that trade in gold ob-

[11] For examples, see Meléndez: 1971, Bozzoli n.d. and 1979, and Séptimo and Joly 1986.

[12] The natives seem to have accepted that Spanish golden ornaments also possessed "power." This was demonstrated in 1699, when natives, angry at the theft of their treasures and with a chief who was angry about his son's illness, took a chalice from a priest and made it into gold pieces that they distributed to be worn as necklaces. The church's patens, the sources say, were sent to Cachegabasa and were perforated and worn around the neck (Ibarra 1991: 25).

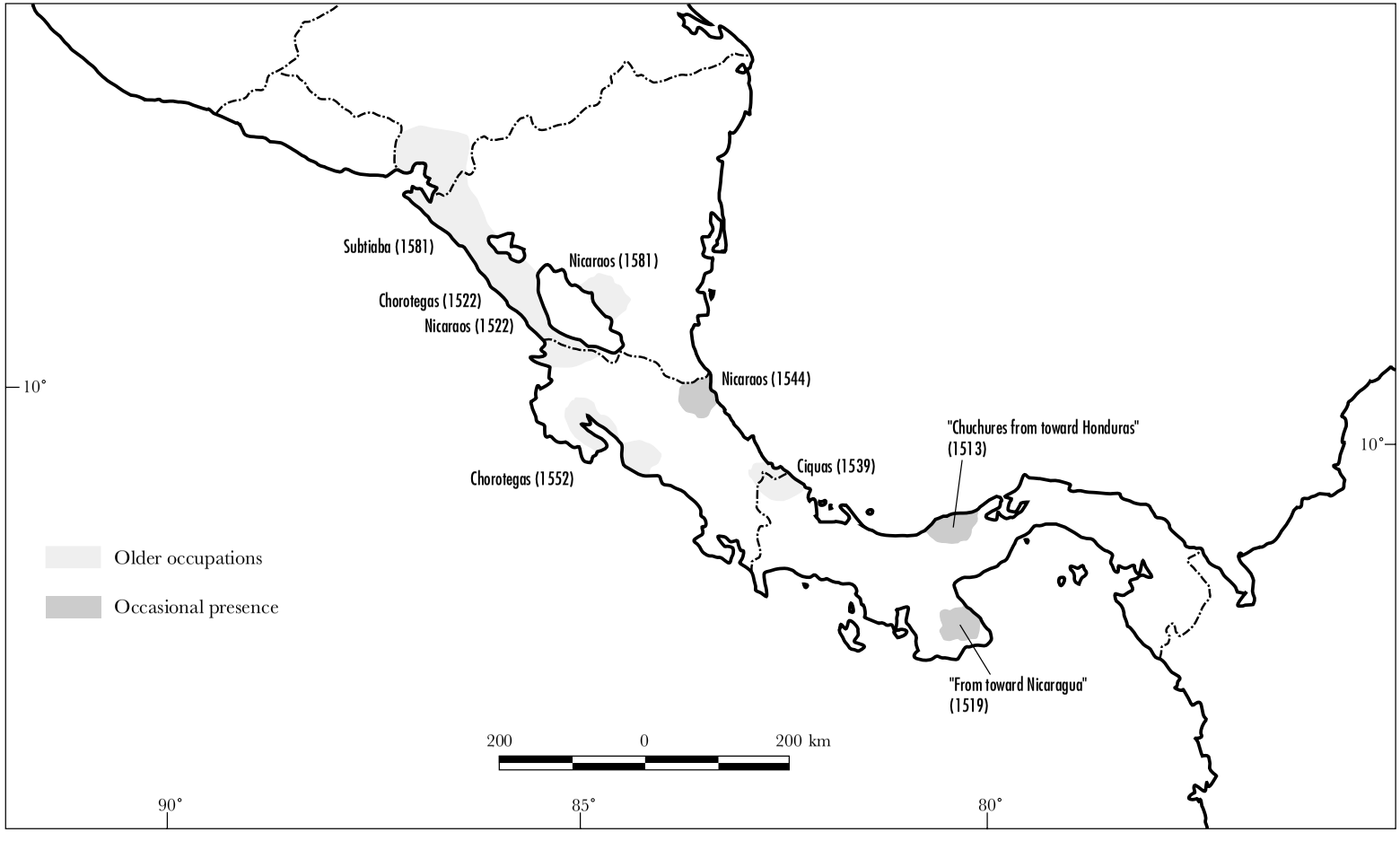


Fig. 3 Mesoamerican settlements in Nicaragua, Costa Rica, and Panama according to documentary sources, 1513–1581. Map by Eugenia Ibarra

jects was a daily activity, and was not limited to southern Central America. Juan Carlos Solórzano observed that the natives were accustomed to establishing trade relations with people who were different from themselves and hypothesized that this influenced their reaction to the Spaniards during their first contact:

> It is useful to note that the inhabitants of the Caribbean coastline of Central America had developed maritime trade in the years preceding the arrival of Europeans. Therefore they did not show hostility toward the strangers, but rather proceeded to trade with them as was their custom with foreigners. (Solórzano 1994: 13)

Vázquez de Coronado states that "in these particular [villages] and in all of them, from the news that I have, a great abundance of gold is traded and collected" (1964: 57). In other words, natives "bartered" for gold or with gold.

Gold was traded for cacao in the markets (*tianguis*) of Nicaragua (Fernández de Oviedo 1976: 348), implying that cacao, the "money" of the Nicarao and Chorotega, was interchangable with gold. It also implies that gold (in some form) was present at such markets, obtained primarily through trade with other ethnic groups of southern Nicaragua (although it may have been produced locally) (Ibarra n.d.b: 61; Mártir de Anglería 1976: 30). Pascual de Andagoya suggests how the inhabitants of Nicaragua obtained gold: "Two years before we arrived in París a large army of people had shown up who had come from the area around Nicaragua. They were such ferocious people that in all the provinces they destroyed the peace and made people give them whatever they wanted: they ate human flesh, and by this caused great fear in the lands they visited" (Pascual de Andagoya, quoted in Alvarez Rubiano 1944: 178).

Markets like those in Nicaragua are not found in southern Central America, nor are "ports of trade" such as those in Mexico (Polanyi 1976). Nevertheless, some places do stand out due to their importance for trade, such as the Gulf of Urabá, Portobelo, Tójar Island in Almirante Bay, Talamanca, the Azuero Peninsula, Boruca, and the islands in the Gulf of Nicoya (Ibarra 2001). Gold was present at these sites.

Southern Central American natives traded in gold frequently. In 1513, Vasco Núñez de Balboa indicated that the Zenú, a cannibalistic "Caribbean" people, gave the chief at Dabaibe unsmelted gold nuggets from "very good mines they had on their lands" in exchange for prisoners of war and young women to serve as wives. They also received peccaries, fish, cotton rope, salt, and other objects of manufactured gold. These Zenú only traded gold nuggets with Dabaibe (Jopling 1994: 23, 41), perhaps indicating a "monopoly" on gold nuggets by the Dabaibe in this area.

The "visits" by the cannibals from "the area toward Nicaragua"—although it is unknown whether they were Nicarao or Chorotega—had as one of their objectives the collection of as much gold as possible. In 1519, during an incursion into the Azuero Peninsula they all became ill with diarrhea and died or fled. The chief of París, leader of the area, took advantage of the booty they left behind and became "rich," according to one source (Jopling 1994: 35).

The scarce documentation available suggests that when an important person, such as a chief or the relatives of a chief, was captured, that person could be ransomed in exchange for

gold. This was observed in the Azuero Peninsula in the case of the son of a chief (Jopling 1994: 64) and probably in Couto and Quepo in southern Costa Rica (Vázquez de Coronado 1964: 49). Moreover, in Dabaibe, prisoners of war were given to the Zenú in exchange for unsmelted gold. The Spaniards quickly discerned this equivalency, and in 1580 Diego de Artieda was accused of capturing a "chief" and "ransoming him for a large sum of gold" (Peralta 1883: 603).

The trade of gold objects among ethnic groups in southern Central America is documented in various places, and the practice can be deduced from observations made by Hernando Columbus when he noticed the eagerness of the natives of Caribbean Panama to trade gold for Spanish objects. It would seem that the natives quickly reached an agreement among themselves regarding the different values of gold; for example, for pins they traded only a little gold, and "they gave more for beads or bells" (Lines 1952: 164). The disks that some natives wore around their necks were traded for "three sparrow hawk bells" (Lines 1952: 21). Moreover, in the Gulf of Urabá the iron axes that Julián Gutiérrez carried were exchanged for pieces of gold, while other objects were traded for some other type of object (Matilla Tascón 1945: 12–15).

Vasco Núñez de Balboa reports that at Comogre, Indians arrived from "the other sea" with gold from mines for smelting. They were given in trade for "Indians and beautiful Indian women," probably prisoners of war, "that they did not eat," and cotton rope (Jopling 1994: 24). Thus we have another instance in which people, prisoners of war, were exchanged for gold. Gonzalo Fernández de Oviedo in 1529 stated that the natives of Veragua gave disks and other pieces of good gold to the natives of Nata in exchange for cotton blankets and hammocks (1977: 486). As early as 1563/64 Vásquez de Coronado documented the importance of gold in exchanges. In 1662, the Dorasque and the Térrebe, Zurri, and people of Talamanca traded for pieces of gold, including disks (de la Rocha 1964: 104). In 1591 a native from Tucurrique (Costa Rica) protested, alleging that Pedro Alonso de las Alas had taken a gold eagle and promised to give a hatchet for it "of greater value than the eagle" (Férnandez Bonilla 1907: 387, 389).

Some friars in Talamanca documented these equivalencies in greater detail. Agustín de Cevallos reported in 1610 that the natives had three "classes" of goods to trade with other natives: "slaves" or prisoners of war; "very well worked" cotton ropes; and gold eagles, lizards, toads, spiders, medallions, medals, and other "creations." These "classes" are the same as cited for earlier years (Férnandez Bonilla 1886c: 158). Elsewhere Cevallos noted that tapirs and peccaries were also exchanged, one tapir equaling four small peccaries. *Carañ*a, a resin extracted from a tree, equaled one tapir. Large strings of beads, as large as the man making the trade, made from the shells of oysters also equaled one tapir. He adds that with these three classes they obtained "in that place" (southern Talamanca) three others, namely, prisoners of war, rope, and gold (Peralta 1883: 699–700).

Cevallos also reported that one tapir was valued at twenty weights of gold and peccaries at five weights of gold apiece; therefore, four peccaries equaled one tapir. It is not clear however, how values in gold were calculated, although it is evident that equivalencies of a certain quantity of one good for another, including gold, did exist. Presumably such "values"

were known by all participants involved in an exchange and respected for the sake of obtaining a balanced transaction.

Natives sometimes stole gold but such cases are rarely mentioned. There are examples involving enemies or enemy ethnic groups, such as a case around 1514 in which París stole from the "Mesoamericans" in Pacific Panama (Alvarez Rubiano 1944: 178). In the vicinity of Chirripó, Costa Rica, in 1611, Juan Quetapa, a chief, accused a Caxagua Indian of stealing eagles (Fernández Bonilla 1882: 169). Such thefts almost certainly were not carried out for the same profit motives that the Spanish had nor in order to accumulate gold, but rather for the sake of political or magical-religious reasons or for establishing alliances with others and obtaining benefits thereby (Ibarra 1990). Thus can be explained the words of Vázquez de Coronado when he commented that the natives of Coctu waged war on their neighbors who stole the gold they had extracted from their mines (1964: 50). It is clear that the defense of their territories was essential, including those where they could obtain gold.

The study of the movement of goods points to three types of trade in the region: (1) within the world of "us," or our world, which would include relatives and related peoples, for example the Dorasque with the Zurri; (2) with "others," implying different ethnic groups geographically near or far, such as the Huetar with the Chorotega, the Talamanca with the "Chichimeca," or any ethnic groups with the Spaniards; and (3) with the "supernatural" world, as the discovery of gold pieces in the houses of religious specialists in Talamanca seems to suggest. Gold, in its different forms and shapes, could turn up in the hands of the elite as well as in the hands of the common people, such as in the case of the natives with guanín around their necks who swam to the Spanish ships or women who traded necklaces and beads at the Gulf of Urabá. Various groups within a hierarchy might use particular pieces in activities that were more political in nature as well as in other activities that were more ceremonial.

Ethnography shows that the Bribri and Cabécar communicated with the supernatural world in a variety of contexts. For example, hunters performed a ritual to attract benefits from the Lord of the Animals, a mythological being who took care of the forest. In secret they would offer him small symbolic objects to win his favor and therefore have a successful hunt. Such relations with the supernatural world were not exclusive to the elite.

The foregoing examples and analyses of various gold pieces suggest that unsmelted gold, smelted gold, mixed and hammered gold, as well as the different figures and forms all had social roles beyond use by the elite, even when the elite possessed knowledge not shared by all members of their group. Likewise, the sources seem to indicate that some gold pieces were more "sacred" than others. Information gleaned from historical contexts and different parts of the region points toward an interpretation that broadens the perspective on the use of gold, or at least some gold, in contexts beyond those dealt with by Mary Helms (1979), who limited her analysis of gold primarily to the elite chiefs of Panama.

The Spaniards recognized the native custom of trading gold and goods for other objects and took advantage of it to plunder and obtain as much of the metal as possible, committing tremendous abuses in the process. Encomiendas in Panama and elsewhere served the purpose of allowing encomenderos to obtain the gold of their respective chiefs.

The Eagle and Disk Enigma

Eagles and disks were the primary categories of pieces exchanged among ethnic groups and with the Spanish. Information about other types, such as toads, spiders, and lizards, is scarce. The presentation of eagles and medals as presents, or "offerings," to the Spaniards is documented throughout the region in question from the time of Columbus's arrival there. The Spaniards were especially interested in disks, because they were of good quality, made from high-quality gold. They are described as being "made in Veragua" (Lines 1952: 158, 159)

> and as mirrors of gold . . . like chalice patens, some larger and some smaller, of twelve ducats in weight, some more and some less. They wear them around their necks hanging from a small cord, like we wear the Agnus Dei or other relic. (Lines 1952: 166)

In native towns, eagles and disks seem to have held a meaning somewhat apart from that of other gold objects. At the very least, descriptions of them and the contexts in which they are described are more complete than for other objects.

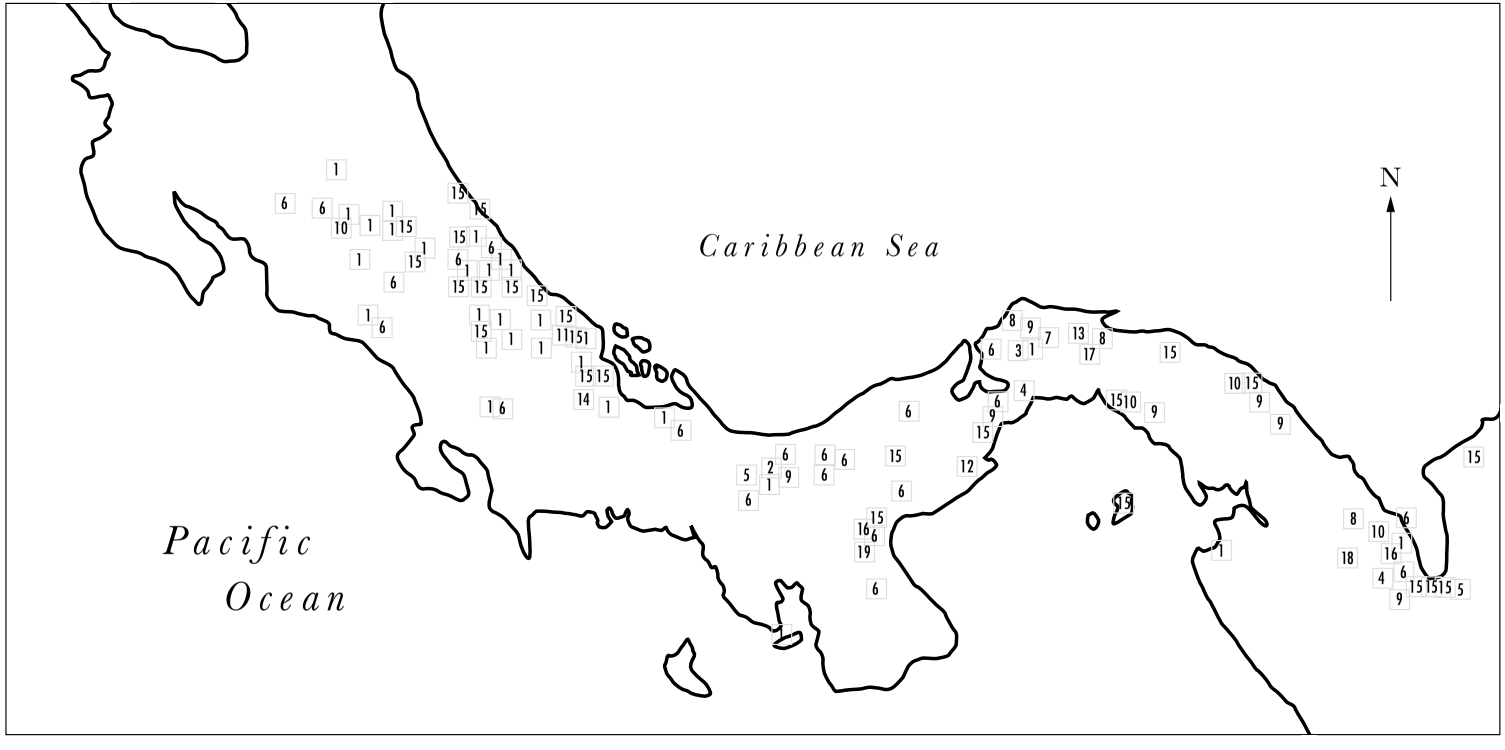
Information indicates that from Dabaibe to Santiago de Talamanca, from 1503 until 1610, chiefs possessed great quantities of disks, eagles, and other objects which were kept in their houses. For this reason the Spaniards were greatly interested in plundering these residences. For natives, then, accumulating disks and eagles in quantity was important.

Gold was reportedly guarded in the houses of the "chiefs" in Veragua (Lines 1952: 170), Dabaibe (Jopling 1994: 23), Careta (ibid.: 24), Usagaña (ibid.: 52), París, Nata, Cherú (ibid.: 64), and in Talamanca (Fernández Bonilla 1882: 152). The use of crates or baskets was common for storing gold, and the sources add that the chiefs had so much gold that "they could not keep it all in baskets so they put it in lofts like corn" (Jopling 1994: 24). This seems to indicate that they would hang the pieces in rows from the posts in their houses or would store them off the ground, perhaps in rafters or attics.

The spatial distribution of disks and eagles in southern Central America indicates their importance during the period studied (Figs. 4, 5, and 6). Between 1500 and 1600 in the territories of Costa Rica and Panama, eagles and disks predominated. Between 1600 and 1920 eagles and disks were reported primarily from the area of Talamanca and the environs of Almirante Bay. While eagles persist in the documentation, and among the Bribri population, into the twentieth century, disks disappear from the documentary evidence, perhaps because their function changed.

Other types of objects, such as limetas, as well as helmets, small bars, tubes, diadems, and small idols, are mentioned less and less frequently as the Spanish conquest advanced. Basically, such a trend signals these objects' discontinuity.

To elucidate this trend, it is useful to refer to events in Talamanca in 1564, when Vázquez de Coronado summoned neighboring chiefs and asked that they bring him gold (Fernández Bonilla 1886b: 318–323). From various parts of the Central Valley and Talamanca, native chiefs arrived to offer him eagles mostly of low gold, one almost copper, and others of



1 eagles
2 diadems
3 axes
4 gold plates
5 unsmelted gold nuggets
6 medals
7 toads
8 armor
9 tube beads
10 beads
11 small gold bars or ingots
12 two-headed eagles
13 earrings
14 human figurines
15 gold
16 *limetas* or small bottles
17 nose rings
18 nose pieces
19 bells

Fig. 4 Gold figures from the sixteenth century found in Costa Rica and Panama (approximate location). Map by Eugenia Ibarra

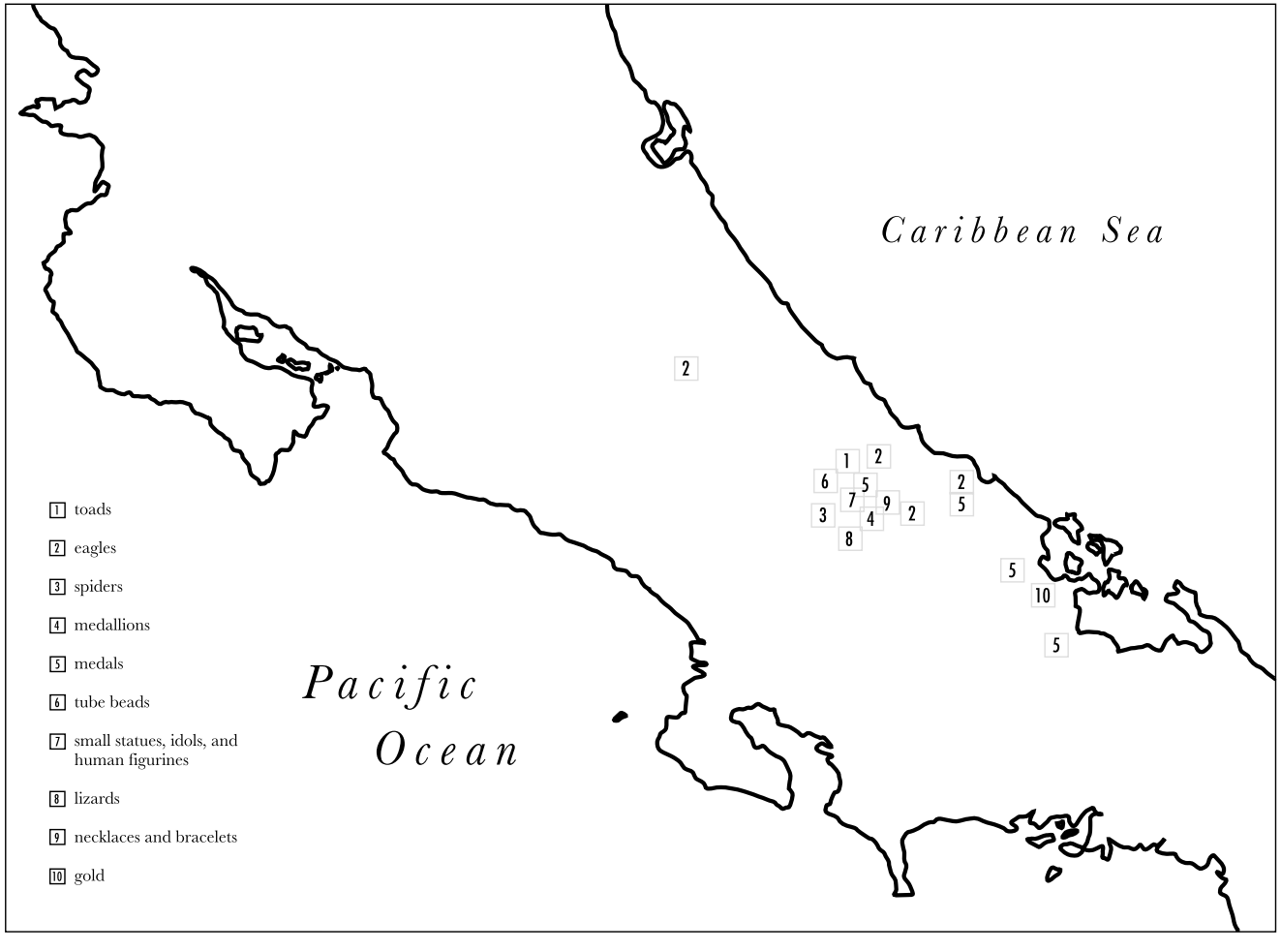


Fig. 5 Gold pieces found in Costa Rica from the period 1600 to 1920. Map by Eugenia Ibarra

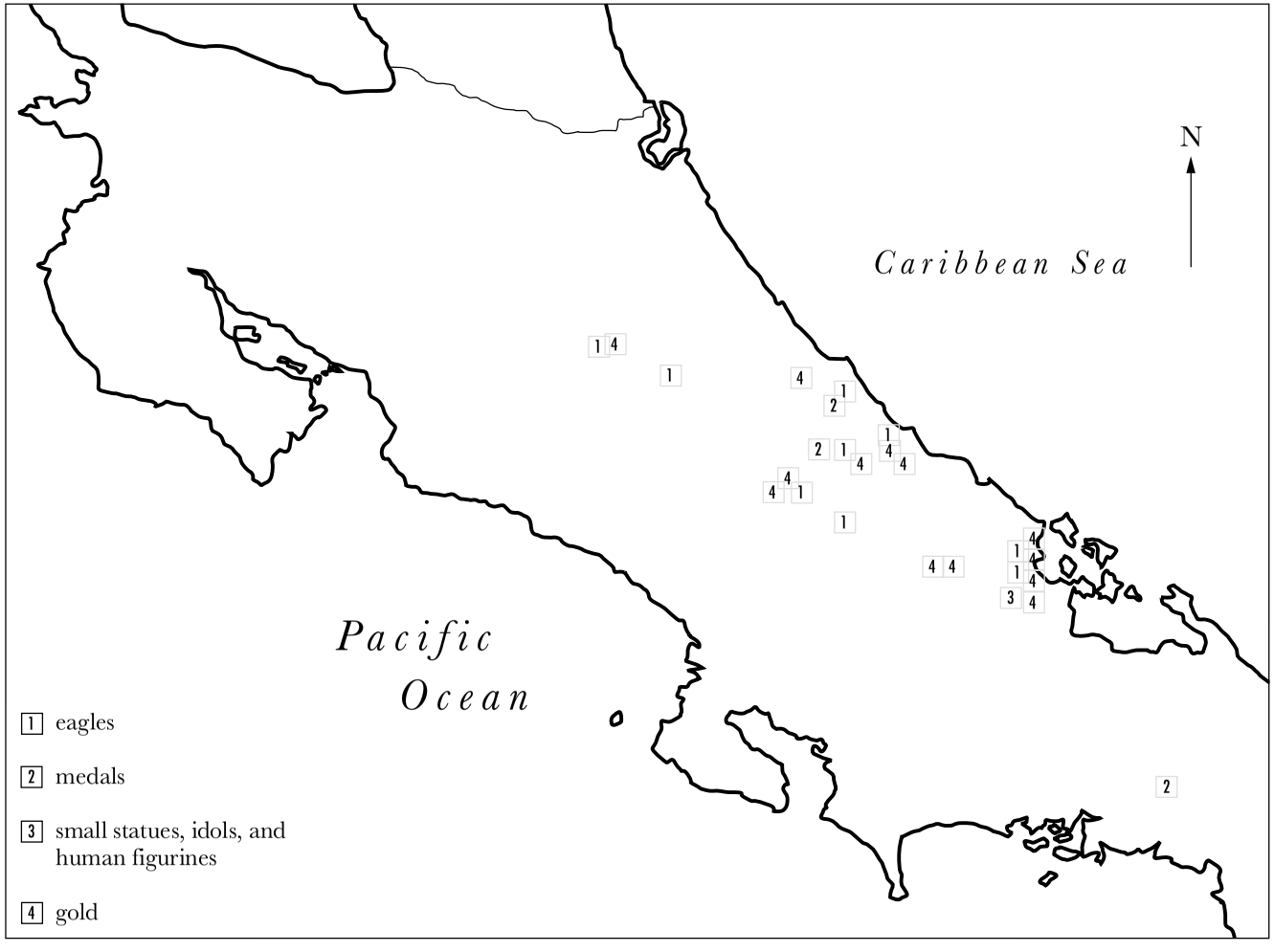


Fig. 6 Gold objects from Costa Rica, 1564. Map by Eugenia Ibarra (after Fernández Bonilla 1886b: 318–323)

good gold, all as "presents" or offerings and one as barter. Two disks and one small idol are also mentioned. One disk was given to him by four chiefs from villages in the mountains of the Tarire River while the other was given by four chiefs from Pococí and its environs. The former group also gave three eagles made of low gold, while the latter gave four more also made of guanín. In that year, this predominance of eagles over disks was also noted for Costa Rica and Panama: it continued in Costa Rica until 1920.

The Destruction of Native Gold in Spanish Foundries

The Spanish obtained local gold in three ways: robbery, barter, and offerings. The conquistadors attacked or plundered houses and villages, taking what was known as "cavalry gold." They also frequently sacked native tombs. Barter, of course, involved the trade of Spanish objects for pieces of gold while offerings implied the "voluntary" giving of the metal by chiefs or their wives to a conquistador. In recent years in Talamanca, when a usékar arrived at a house and mentioned that he liked an object there, it would be offered to him because of the great fear everyone had of him. Perhaps similar reasoning was behind the offerings made to the Spaniards (Bozzoli, personal communication, 1999).

With the enormous quantity of gold acquired by the Spaniards through these three methods, by 1515 they had already established a foundry at Santa María la Antigua in Darién (Fig. 2). Because there were no strict controls in place and because of "irregularities," such as conquistadors keeping gold for themselves, hiding it, or stealing it, in 1519 the king of Spain sent instructions to ensure that smelting best served his interests. He prohibited the private ownership of bellows or foundry equipment and ordered that on days when smelting took place, authorized officials should oversee the activity. Gold that spilled from the crucibles into the slots of the furnace door during smelting was called *escobilla*. Twenty-seven or more weights of gold could usually be recovered this way, and since it was impossible to tell whose gold it was, it was used for charity and pious works and sent to the monastery of Sr. San Francisco at Darién (Matilla Tascón 1945: 215). On this occasion the inspector was Gonzalo Fernández de Oviedo (Alvarez Rubiano 1944: 487–488), who also put a stop to gold being smelted elsewhere.

Also in 1519, the king decreed that because guanín was a very low and coppery gold, and when smelted was not of fine quality, good gold should be kept and smelted separately. The guanín pieces were to be saved and, when convenient, used for trade with the natives (from the coast or the Gulf of Urabá) for more gold or precious stones (Alvarez Rubiano 1944: 512). From this we can infer that the natives traded guanín for more gold or other goods among each other, a practice the Spaniards obviously exploited. Great quantities of gold pieces, including guanín, were brought to the foundry in Darién.

Though the existing documentation about smelting is sparse, what exists offers valuable data about the types of native objects obtained by the Spanish and their origins (Jopling 1994: 83–102; Góngora 1962: 107–128). In 1524, there was a foundry in Panama for gold taken by commissioners from chiefs on their encomiendas. As for Darién, the documentation is scarce, but again valuable, and is similar (ibid.). The encomienda process created a

triangular relationship including gold, the chief, and the encomiendero and functioned on the principles of native trade. Through this institution, encomenderos were assured of their quota of gold, provided directly by their chiefs and other natives on their encomiendas (Jopling 1994: 83–102).

By 1527 a foundry had been established at León in Nicaragua (Fernández Bonilla 1886b: 12), and in 1528 an inspector was ordered to supervise all the gold smelted and marked there, whether obtained from mines or from natives (Vega Bolaños 1954: 303–305). Information about smelting in Léon was lost in fires set during pirate raids, but it is known that an enormous quantity of complete native gold pieces was destroyed in the foundries, causing dramatic changes among the natives who survived the Spanish conquest.

Conclusions

Modern history and anthropology place gold objects within sociohistoric contexts that clarify the relationships between such objects and the people who used them. Such analysis begins with the daily lives of these individuals and their interactions with each other, with the objects, and with "others," primarily examining their trade activities. In this process, old sources and new data acquire relevance and possibly new meanings. Nevertheless, the final hypotheses here remain tentative and are presented with caution. Future archaeological investigations and work in other disciplines will doubtless help to clarify them.

When the Spaniards arrived in the New World, the chiefdoms of southern Central America had found in gold a way to establish interpersonal and communal relationships, a method of communication for transmitting symbols and information, a reaffirmation of ethnic identities, and a means to conduct transactions with the peoples of Mesoamerica and of South America.

Part of the daily context in which the inhabitants of the lower isthmus developed involves their relationships with the chiefdoms of Nicoya and Nicaragua, with the "Chuchures from toward Honduras," with the "Chichimeca or Ciqua" (likely Mesoamericans), and with the Zenú and other communities of northern Colombia and of the coast of Ecuador, among others. The presence of Mesoamericans in this area is clearly documented. Their interactions include trade relationships that were different from those within the interior of the isthmus. The interactions between the inhabitants of Panama, Costa Rica, and Nicaragua in the sixteenth century can be divided into two categories: "local" and "foreign."

It is established that contacts and relationships existed between the former inhabitants of Costa Rica and Panama and the people of Dabaibe and villages of northern Colombia (Bray 1984; Ibarra 1998; 2001). Nevertheless, documentary information indicates that such established relationships were not as close as those that occurred among natives of the same "Guanin Isthmus" (Aguilar 1998). A study that explores and compares the hypotheses proposed herein with what transpired among the people of northern Colombia in the sixteenth century remains to be undertaken. It appears that within the isthmus, relations among the Boruca, Bribri, Cabécar, Dorasque, Guaymí, Huetar, and Terreve were closer than those between the Cueva-Chocó and Kuna.

The results here can be compared with those obtained by archaeology, including Aguilar's from the isthmus regarding the distribution of guanín in the territories of Costa Rica and Panama and its connection with other parts of Colombia. Guanín eagles, based on their persistence over time, may have been preferred by some ethnic groups over the more pure gold of disks, due perhaps to concepts related to power, survival in the face of misfortune and danger, or self-preservation as a people. This is suggested by the case of Talamanca, in which the eagles of the chief Saldaña have been identified as guanín by some archaeologists (Patricia Fernández, personal communication, 1999).

One of the most important results of this study is the evidence of an apparent hierarchy among gold objects based on who used them and in what context they were used, whether more "civil" or more religious. Certain objects were associated with the *awá*, *bikakra*, *bikli*, *bulu*, *okom*, *sia'tmi*, and *usékares*. This hierarchy corresponds to one that has been fully documented by ethnography and ethnohistory in Panama and in Costa Rica (Helms 1979; Bozzoli 1979; Ibarra 1984). Archaeology has also contributioned to this topic (Fonseca 1992; Fonseca and Cooke 1993). A similar situation appears to have arisen among the elite of other neighboring hierarchical ethnic groups, including the Huetar, the Dorasque, and the Guaymí, among others, as well as among the Cueva-Chocó.

This leads to reflection upon the significance of power among villages in the sixteenth century. Based on documentary evidence, the possession of sacred objects among members of the Talamancan elite suggests a conception of power associated with the understanding and manipulation of magical-religious forces, as well as with the propitiation of and establishment of relations with supernatural beings for the good of all, including protection from enemies. The fact that such objects were special in nature and inherited within families and among members of particular clans, however, suggests that their power was linked to membership in a clan and, in the case of Talamanca, to particular territories. Likewise, there may have been a hierarchy of power among chiefs expressed through the nature and function of the individual: more "civil" and political or more religious, without a sharp division between the civil and the magical-religious in all cases.

Based on the evidence, it is now possible to divide objects forming part of the daily lives of South Central American natives into three categories: sacred objects, "monetary" or quasi-monetary objects, and objects of value. Such a classification, interwoven into the sociocultural dynamics of gifts and countergifts, has helped provide a deeper understanding of the role that gold fulfilled in the region in the sixteenth century. The movement of gold objects, observed through social relations, stands out in the analysis of exchange activities among the inhabitants of the isthmus and beyond.

Historical changes during the development of a society favor the construction and reconstruction of ethnicity insofar as the processing or events are modified by the use or abandonment of external symbols. The inhabitants of the isthmus had many means of distinguishing themselves from one another, among which gold ornaments, clothing, language, and bodily ornamentation all played complementary roles. During the period this study covers, it is possible to "read" changes in the messages conveyed by some of the eagles used by chiefs, as suggested by the sale of Saldaña's necklace by his sister. Rank insignias were the

most important objects among the sacred objects, monetary objects, and symbols of ethnic identity in the sixteenth century (and until the end of the nineteenth and early twentieth centuries) for at least part of the native population. In the early years of the twentieth century gold objects no longer legitimized native social relations, a trend begun after the arrival of Spanish settlers in the isthmus.

The Spanish struck a tremendous blow to southern Central Americans in their plundering and smelting of native gold. Not only was their metal physically melted down, the very essence of their cultures was destroyed. The crucibles and furnaces of the Spaniards literally melted the "soul" of a society.

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